

FEB 05 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: J.S. Shaw et al)

Art Unit: 1711)

Application No.: 09/944,709)

Confirmation No: 1772)

Examiner: Cooney, J.M.)

Filed: 08/31/2001)

Title: **Fiber Imbedded**
Polymeric Sponge)BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES
TRANSMITTAL OF APPEAL BRIEFMail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

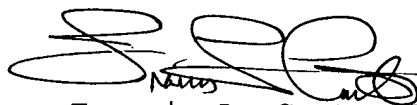
In accordance with 37 CFR 1.191, applicants hereby appeal to the Board of Patent Appeals and Interferences from the final decision of the examiner dated 10/22/03, finally rejecting claims 1-10, 13-15, and 19-21.

The Notice of Appeal was filed by fax on 21 January 2004.

In accordance with 37 CFR 1.192, applicants herewith enclose an Appeal Brief, in triplicate.

Please charge the \$330.00 fee for filing a Brief in support of Appeal, in accordance with Section 1.17(c), to Deposit Account No. 07-0865 of General Electric Company in accordance with the attached Fee Transmittal.

Respectfully submitted,

Francis L. Conte, Attorney
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Attachment: One-page Fee Transmittal for FY 2004

CERTIFICATE OF MAILING (37 CFR 1.8a)

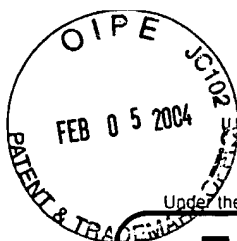
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FRANCIS L. CONTE

(Name of person mailing paper) (Signature of person mailing paper)

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30 JAN 2004



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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)**330.00**

Complete if Known

Application Number	09/944,709
Filing Date	08/31/2001
First Named Inventor	J.S. Shaw et al
Examiner Name	Cooney, J.M.
Art Unit	1711
Attorney Docket No.	13DV-14194

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

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Account
Number
Deposit
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Name

07-0865

General Electric Company

The Director is authorized to: (check all that apply)

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below		Fee Paid
Total Claims	<input type="text"/>	-20** =	<input type="text"/>	X	18	0
Independent Claims	<input type="text"/>	-3** =	<input type="text"/>	X	86	0
Multiple Dependent	<input type="text"/>					

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)**0**

**or number previously paid, if greater. For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	330
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) **Publication Fee**

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$)**330**

SUBMITTED BY

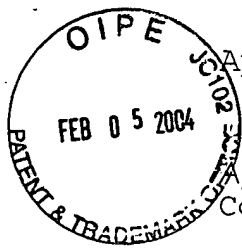
(Complete if applicable)

Name (Print/Type)	William Scott Andes	Registration No. (Attorney/Agent)	33,582	Telephone	513/243-5955
Signature		Date	30 January 2004		

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This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: J.S. Shaw et al)

Art Unit: 1711

Application No.: 09/944,709)

Confirmation No: 1772)

Examiner: Cooney, J.M.

Filed: 08/31/2001)

Title: **Fiber Imbedded
Polymeric Sponge**)**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**
APPEAL BRIEFBox AF
Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with 37 CFR 1.192, Appellants hereby submit this Appeal Brief in triplicate and request that the decision of the examiner dated 10/22/03 finally rejecting claims 1-10, 13-15, and 19-21 be reversed and that these claims be allowed.

REAL PARTY IN INTEREST

The real party in interest is the assignee of record.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

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STATUS OF CLAIMS

Claims 1-43 stand pending in the application.

Claims 11, 12, 16-18, and 22-43 stand allowed.

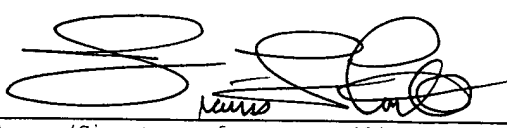
Claims 1-10, 13-15, and 19-21 stand finally rejected and

CERTIFICATE OF MAILING (37 CFR 1.8a)

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FRANCIS L. CONTE

(Name of person mailing paper)


(Signature of person mailing paper)
30 JAN 2004
(Date)

are the subject of this Appeal Brief.

STATUS OF AMENDMENTS

There is no amendment filed subsequent to the final rejection.

INTERVIEW SUMMARY

On 16 December 2003, this attorney conducted a phone interview with the examiner to discuss the examiner's failure to afford any weight to the specifically amended features including "pliant granules," but no agreement was reached.

The examiner was unable to offer any suggestions on how these terms might be given weight, notwithstanding their ordinary meaning, their meaning in Appellants' specification, and their meaning in the art of record.

Accordingly, this appeal is the only recourse to resolve the matter.

Furthermore, the examiner's failure to specifically address claims 13-15 and 19-21 in the 06/05/03 office action, as well as in the 10/22/03 final office was brought to the examiner's attention in order to prevent remand by the Board.

At page 12 of the 8/8/03 amendment, Appellants specifically brought to the attention of the examiner:

It is noted that despite the listing of claims at box 6, only claims 1-10 have been in fact rejected, and claims 13-15 and 19-21 have not been rejected for any identified cause.

Accordingly, the rejection of claims 13-15 and 19-21 is void ab initio for lacking any basis under the statute and rules.

However, the examiner yet again failed to provide any basis to reject these claims.

This failure was again brought to the attention of the examiner in the 12/16/03 interview, yet the examiner still did not explain the basis of the rejection in the interview summary.

In this regard, and whether or not the examiner's failure to properly address claims 13-15 and 19-21 "was inadvertent and typographical in nature," it was not for this attorney to agree or not; only the examiner knows his own intention.

The examiner's contention in the interview summary that "such understanding was not agreeable" to this attorney is not an accurate reflection of the interview.

Since the subsequent remarks of the examiner in that interview summary still did not identify the basis to reject claims 13-15 and 19-21, this attorney called the examiner on 7 January 2004 to resolve this prior to appeal; yet the examiner referred this attorney to the examiner's supervisor James Seidleck.

On 8 January 2004, this attorney explained this problem with supervisor Seidleck, and simply requested that the basis for the rejection of claims 13-15 and 19-21 be clearly made of record, perhaps in another interview summary. Mr. Seidleck indicated that he would address the matter with the examiner.

On 8 January 2004, an interview summary dated 7 January 2004 was faxed to this attorney, with the examiner simply stating that: "The record is clear that the rejected claims are 1-10, 13-15, and 19-21 as indicated on the cover sheet of the last Office action." Yet again, the examiner failed to explain the basis for the rejection.

Since that interview summary still did not identify the basis for the rejection, and also incorrectly listed SN 09/949709 (Matsueda, Kazutaka), this attorney again spoke with Mr. Seidleck on 12 January 2004, who again referred the matter to the examiner.

The examiner then contacted this attorney, and submitted another interview summary in which claims 13-15 and 19-21 were added to the rejections under Section 102(e) over the previously applied two references.

The record now appears complete for purposes of this

appeal.

BACKGROUND

At pages 1 & 2 of the specification, the problems associated with manufacturing complex metal parts with precision and fine surface finishes are presented.

Hand grinding, grit blasting, and abrasive tumbling are just examples of typical post-processes used to finish the machined surfaces without damage thereto. However, these post-processes each require special equipment and add to the manufacturing time and cost.

A new process entitled Sustained Surface Scrubbing is being developed by the assignee for quickly and efficiently removing burrs and expulsion and radiusing sharp corners at reduced cost. This basic process is described in US Patent 6,273,788, and is followed by several related patent applications including one issued as US Patent 6,183,347.

The various forms of Sustained Surface Scrubbing disclosed in these applications and patents include a **pliant shot** discharged in a carrier air stream at a shallow angle of incidence against a workpiece for the selective removal of material therefrom. The pliant shot is preferably a polyurethane cellular foam or **sponge in small granular form** and is preferably impregnated with different types of abrasive material as required for correspondingly different abrasive performance.

An earlier form of pliant blasting media is commercially available from Sponge-Jet Inc. of Eliot, Maine under the trademark of SPONGE-JET Media. This sponge media is formed with **open cells** for trapping contaminants during the intended blasting operations.

However, open-cell trapping of contaminants is undesirable in many applications wherein the pliant shot is intended to be reused for reducing costs. The open cell sponge media has limited strength and durability and affects

the performance of the abrasive imbedded therein.

The subject matter of the present application includes a method for manufacturing an improved pliant shot for use in the several forms of Sustained Surface Scrubbing for increasing the strength and durability of the shot, and corresponding performance thereof.

Due to a restriction requirement, a divisional application has been filed for the method itself, and the previous method claims have been amended to product-by-process claims 23-43, all of which stand allowed.

Product claims 11, 12, and 16-18 also stand allowed.

The present appeal is now limited to product claims 1-10, 13-15, and 19-21 which recite different embodiments of the polymeric sponge made by the special method.

SUMMARY OF INVENTION

Claim 1 recites a polymeric sponge 12 comprising pliant cellular granules including cellulose fibers 20 imbedded therein as illustrated in figures 1 and 2, and introduced at page 4, lines 9-21.

Independent claim 19 recites a polymeric sponge 12 comprising pliant granules including water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers 20 chemically bonded in the polymer, again illustrated in figures 1 and 2, and introduced at page 4, lines 9+, and further described at page 8, lines 23-27.

Of particular significance in the polymeric sponge is the inclusion therein of **cellulose fibers** 20 chemically imbedded and bonded in the polymeric matrix 14 of the sponge [note that all bolding found in this brief has been added for emphasis herein]. The cellulose fibers substantially improve the strength, durability, and abrasive performance of the sponge granules, as well as improve the manufacturing process of the sponge itself.

The specification is replete with the substantial advantages introduced by the cellulose fibers, see for example: page 5, lines 1+; page 8, lines 28+; page 9, line 6, to page 10, lines 22+; page 15, lines 3+, and lines 25+; page 16, lines 5-15; and page 18, lines 3+.

The dependent claims are addressed below.

ISSUES

Issue (1) - whether claims 1-10, and 13-15 and 19-21 (see 1/12/04 interview summary) are unpatentable under 35 USC 102(e) over Reichelt et al.

Issue (2) - whether claims 1-10, and 13-15 and 19-21 (see 1/12/04 interview summary) are unpatentable under 35 USC 102(e) over Keppeler et al.

GROUPING OF CLAIMS

The rejected claims do not stand or fall together in each of the separate issues and groups listed above, and are separately argued hereinbelow.

REFERENCES APPLIED

U.S. Patent 5,981,612 - Keppeler et al.

U.S. Patent 6,495,652 - Reichelt et al.

ARGUMENT

It is well noted that most of the claims have already been allowed by the examiner in view of the unique process in which **cellulose fibers** are introduced for making the resulting sponge. This includes the product-by-process claims 23-43, and product claims 11, 12, and 16-18.

Note also that these claims have been found allowable by the examiner over the plethora of art of record including

both Keppeler and Reichelt.

The issues on appeal are therefore limited to only a few product claims, written with few features, which features deserve a fair and objective interpretation, especially when read in light of the specification, and in light of the references of record.

References Reichelt and Keppeler are quite tenuous at best, and were clearly uncovered by the examiner for the incidental inclusion of the "cellulose" features therein, apparently found by mere computer searching. In most respects, these references are not related to Appellants' field of endeavor or specific problems, and would be non-analogous art under Section 103 (not applied here by the examiner).

Note that the examiner previously applied the Bruxvoort et al reference in the 12/05/02 office action for its teaching of "ethylcellulose," without regard to the meaning of that composition, and without regard to the meaning of the "cellulose fibers" recited in Appellants' claims.

However, the shortcomings of that reference were readily overcome in the 03/04/03 amendment response, with copies of CAS Reg. Nos.: 9004-57-3 & 9004-34-6 being attached to that response. This caused the examiner to search yet again and uncover references Reichelt and Keppeler for their incidental inclusion of "cellulose fibers," which references were first applied in the 06/05/03 office action.

These two references share the same assignee and share the common inventor Reichelt, with apparently common subject matter, but different claims. The examiner has failed to show that the methods or products of these references are relevant to Appellants' method and sponge product, or that the products of those references would have any utility as sponge media in the sustained surface scrubbing process for which Appellants' product has been developed.

However, it is also recognized that rejections under Section 102 are highly technical, and are evaluated on a one-

to-one correspondence between claim features and a single reference; yet even by this standard, both rejections under Section 102 must fail since the examiner has admittedly failed to afford any weight whatsoever to the specifically identified features of Appellants' claims.

This will become evident below.

ISSUE 1

Issue (1) - whether claims 1-10, 13-15, and 19-21 are unpatentable under 35 USC 102(e) over Reichelt et al.

Appellants traverse the rejection of claims 1-10, 13-15, and 19-21 under 35 USC 102(e) over Reichelt et al.

In *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984), anticipation requirements under 35 U.S.C. §102 are presented as follows:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. In deciding the issue of anticipation, the trier of fact must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the allegedly anticipating reference. (citations omitted).

The Board of Patent Appeals and Interferences in *Ex parte Levy*, 17 USPQ2d 1461, 1462 (B.P.A.I. 1990) cites *Lindemann* to place the burden of proof upon the examiner as follows:

Moreover, it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference.

Furthermore, the Federal Circuit further held in *Lewmar Marine, Inc. v. Barient, Inc.*, 3 USPQ2d 1766, (1987), cert. denied, 108 S.Ct. 702 (1988) that:

"[t]hat which would *literally* infringe if later in time anticipates if earlier than the date of invention."

Accordingly, anticipation under 35 U.S.C. §102 requires disclosure by a single reference of each and every element recited in a claim functioning in the same manner to produce the same result as the claimed invention.

At the end of the examiner's remarks at the bottom of page 4, the examiner merely concludes:

Applicants' new claim limitation "comprising pliant cellular granules does not distinguish the claims over the cite prior art. The limitation does not define "granules" in a manner which distinguishes over the "articles" of the references, and the term "pliant" without specific values of degree does not present a limitation in the patentable sense.

This, the examiner opines without any support in the Statute, Rules, MPEP, or case law. Examiner argument is never evidence, nor is it controlling.

The MPEP mandates an objective evaluation of claims, and all claim features must be given some meaning, not no meaning.

MPEP 2111.01 states that claims must be given their "plain meaning," unless they are defined in the specification. And, plain meaning refers to the meaning given to the term by those of ordinary skill in the art.

Note that the examiner has not attempted to ascribe any definition to these key terms, whether from the ordinary dictionary, or the specification, or the art of record, or even case law. This is clear, and reversible, error.

Note further, that in the same paragraph the examiner compares the claimed "granules" with the mere "articles" of the references, yet the examiner, himself, has failed to provide any definition for those "articles" or that those "articles" have any "specific values of degree" which might have some bearing on objectively interpreting Appellants'

claims.

Indeed, the examiner stated in the 12/16/03 interview that he considered even the "rigid" foams of the two references to fall within his interpretation of the expressly recited "pliant" feature of the claims since these terms were merely relative terms.

This interpretation, and the examiner's clear failure to interpret ordinary English words for their ordinary meaning is quite remarkable; and no claim would be patentable if examiners were allowed such unbridled latitude in interpreting claim elements. This, again, is clear, and reversible, error.

MPEP 2173.05(b) states that "when a term of degree is present, determine whether a standard is disclosed or whether one of ordinary skill in the art would be apprised of the scope of the claim." The examiner has failed to apply this standard, and was unable in the interview to offer any suggestions based on his years of experience at the USPTO in attempting to resolve this issue.

What then are the elements of the rejected claims?

And, what meaning should be given to them?

These fundamental issues must be addressed before applying any references, including the two disparate references being applied by the examiner.

Both independent claims 1 and 19 recite, inter alia, a "polymeric sponge comprising pliant granules including cellulose fibers...."

The "pliant cellular granules" feature was added to claim 1; and the "pliant granules" feature was added to claim 19 in the last amendment, for which the examiner has admittedly afforded no weight.

The Random House Dictionary provides the following "plain meaning" for terms in the claims and those used by the examiner as reproduced in part as follows:

Sponge: marine animal; light, yielding, porous, fibrous skeleton of Spongia; porous rubber, cellulose,

or similar substance.

Pliant: bending readily; flexible; supple; adaptable; compliant.

Granule: a little grain; a small particle, pellet

Granulate: to form into granules or grains.

Cellulose: an inert carbohydrate $(C_6H_{10}O_5)_n$ made from plant cell walls.

Rigid: stiff or unyielding; not pliant or flexible; hard.

Article: individual object, member or portion of a class.

Clearly, the examiner's mere contention that the "pliant" feature of the claims "does not present a limitation in the patentable sense" is mere conclusion, without any authoritative support; and his contention in the interview that it does not distinguish over the "rigid articles" of Reichelt and Keppeler is equally without support, or even logic.

According to the common dictionary meanings of "pliant" and "rigid" they could not be any different from each other in "plain meaning." Indeed, they are the antithesis of each other, with the definition for "rigid" expressly stating "not pliant."

The examiner's admitted failure to afford due weight to the recited "granules" is equally erroneous. The end products in Reichelt are molded articles, or blocks, sheets, or sandwich elements produced on conveyor belts, see col. 12, line 66, to col. 13, line 5. Clearly such articles are relatively large. Where is any teaching in Reichelt of any granulation process to reform the foams into granules?

And, in the related reference Keppeler, the end products are molded foams suitable for insulating materials in refrigerators, see col. 10, 11. 38-44.

These two claim features "pliant" and "granules" alone are quite sufficient to distinguish all rejected claims over not only the Reichelt reference, but also the Keppeler reference since the examiner has admittedly failed to afford any weight thereto, let alone due weight.

Notwithstanding the common dictionary meaning of the

claim features, Appellants' specification also describes or defines such features repeatedly as used in the special method of production, and the resulting sponge media.

Paras. 11 & 12 recognize the conventionality of pliant shot in the relevant art, based not only on the previous development efforts of the assignee and the resulting patents, but also as commercially available from Sponge-Jet, Inc.

The terms sponge, granule, and pliant are repeatedly found in many paragraphs of the specification, including in particular the following paragraph:

[0020] Figure 2 illustrates greatly enlarged a schematic representation of an exemplary **granule** of the sponge 12. The sponge **defines** a **cellular** foam matrix 14 having a polymer material composition such as polyurethane. The matrix includes minute voids or cells 16 defined by surrounding ligaments of the matrix. The cellular construction and polymeric material composition produce a resilient or **pliant** sponge which is **readily compressible** when used as a blasting sponge media in the Sustained Surface Scrubbing processes described above.

Furthermore, the term pliant is found in many additional paragraphs, including para. 70 as follows:

The sponge is relatively resilient and **pliant** and is **readily compressible** when discharged in a stream of pressurized carrier air for scrubbing against the intended surface for selectively removing material therefrom.

The plain meaning of the term pliant as used in the claims and supporting specification is clearly consistent with the dictionary definition; and clearly is not the same as "rigid" as the examiner contends.

The term granule is further found in the manufacturing process described in para. 32 in which the foam is shredded to granule size. At para. 70, "The resulting sponge granules 12 have a suitably small size of about **several millimeters** with closed cells 16 enclosed by the polymeric matrix 14 reinforced by the cellulose fibers 20 encased therein.

The plain meaning of the granule term as used in the claims and supporting specification is clearly consistent

with the dictionary definition; and is clearly not the same as the inherently large "articles" of Reichelt and Keppeler as the examiner baldly contends.

The plain meaning of the various claim terms may also be determined from the art of record. Pliant blasting media over which the present invention is an improvement is disclosed in US Patents 5146716; 5207034; 5234470; 5256703; 5323638; 5344472; and in the three Sponge-Jet references of record.

Pliant shot for the sustained surface scrubbing process is disclosed in US Patents 6183347, and 6273788, which issued from the application identified in para. 10 of the specification.

Note, quite significantly, that the U.S. class 451 for these last two references, and the class 51 for the previous references, are not the same as those for the two references Reichelt and Keppeler. This is relevant because the examiner's apparent computer search had to go far afield to find the incidental reference to the cellulose fiber element of the claims, which provides the substantial advantages in manufacturing and in the resulting sponge granules, nowhere disclosed or suggested by the disparate references Reichelt and Keppeler.

All the rejected claims include the cellulose fibers 20 in the polymeric sponge pliant granules.

The term cellulose fibers is repeatedly found in specification, along with its many advantages, in paras. 22-24, 27, 30, 40, 41, 43-46, 55, 57, 58, 60, 21, 64, 68, 70, 74, 75, and 76.

In particular, para. 55 identifies a commercially available form of the fibers.

And, para. 68 summarizes certain advantages as follows:

The introduction of the cellulose fibers provides an additional ingredient having particular synergy with the water ingredient for its affinity therefor, as well as providing a synergistic constituent in the matrix

ligaments of the final polymeric sponge improving its strength and durability, and resulting performance when used in the process of Sustained Surface Scrubbing described above.

As indicated above, since the examiner has admitted at the carryover paragraph bridging pages 4 and 5 of the office action that no weight has been given to the "granule" and "pliant" features of the claims, the entire rejection over Reichelt, as well as over Keppeler, must fail for lack of support.

The examiner's further contentions on pages 3 and 4 in response to Appellants' previous remarks fail to address the claims in specificity or those remarks in specificity. Section 102 rejections require strict identity between claims and a single reference, and the examiner's broad use of the plethora of elements in Reichelt (and Keppeler) fails to identify any specific combination of those many, many elements which would meet any of the claims being rejected.

Note again, quite significantly, that the examiner must disregard the "pliant" and "granule" features of Appellants' claims, because Reichelt (and Keppeler) fail to disclose such features in the express **combinations** recited in the rejected claims.

The examiner must also resort to the expedient of "inherency," at page 4, line 12, to support the rejection when closed or open cell foams are clearly not inherent, and require special processing overlooked by the examiner in his rush to reject the claims. See para. 37 of the specification for the production of closed cell granules.

A test for supporting an **inherency** rejection under 35 U.S.C. §102 is found in *Ex parte Levy*, 17 USPQ2d 1461, 1462-1464 (B.P.A.I., 1990) and is reproduced here:

The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed invention. (Citations omitted). Moreover, it is incumbent upon the examiner to identify wherein

each and every facet of the claimed invention is disclosed in the applied reference. (Citation omitted)... However, the initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention rests upon the examiner. (Citation omitted).

In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. (Citations omitted).

In *Corning Glass Works v. Sumitomo Electric U.S.A. Inc.*, 9 USPQ2d 1962, 1965-1966 (Fed. Cir. 1989), the Federal Circuit analyzed a claim reciting "[a]n optical waveguide comprising (a) a cladding layer..., and (b) a core..." which was argued to be anticipated by a patent (i.e., '101) disclosing a luminescent glass fiber having a core and a sheath based on testimony (not supported in the '101 patent) "that the '101 fiber 'inherently' could function as a 'waveguide,' albeit at most for a few meters."

The Federal Circuit cited an anticipation test, i.e.:

Anticipation requires that every limitation of the claim in issue be disclosed, either expressly or under principles of inherency, in a single prior art reference [citation omitted].

The Federal Circuit concluded that:

The claim requires, in addition, the particular structural relationship defined in the specification for the core and cladding to function as an optical waveguide.

Viewed in this manner, the fact that the '101 luminescent fiber could inherently transmit information for a few meters becomes irrelevant. The 101 patent does not disclose all the limitations of the claimed "optical

waveguide" as that term is structurally defined by the '915 inventors [which included a complex equation found in the specification for the structural dimensions and refractive index differential necessary].

Clearly, the examiner's repeated use of mere "inherency" is not supported by logic, or the references being applied.

In the single paragraph bridging pages 2 and 3 of the office action, the examiner applies Reichelt in general to support the rejection of claims 1-10, with no mention of the different claims 13-15 and 19-21, repeatedly overlooked by the examiner.

The examiner's contentions fail to address the specificity of Appellants' claims, and fail to address the specificity of the applied reference. The examiner's contention to "see the entire document" does not support the omnibus rejection of claims 1-10, or 13-15 & 19-21; nor does the examiner's mere contention of "permissible inclusion of cellulose fibers...."

The "entire document" is like a dictionary of chemical constituents in which many, many constituents are listed for breadth; yet at the same time the "entire document" also recognizes the corresponding **differences in possible final products** from different combinations of those constituents.

See, for example only, col. 9, ll. 61+, which states that "it is also possible to use mixtures of polyols for producing flexible or rigid foams." And, of course, flexible and rigid foams could not be any more different from each other.

So where in Reichelt is any teaching of a specific combination of constituents like those recited in claims 1-10, 13-15, & 19-21 having the attributes therefor as disclosed in Appellants' specification?

It appears that the examiner has uncovered the two similar references using a mere computer search for "cellulose fibers," yet this is insufficient to support a rejection under Section 102, especially in this **chemical art**

wherein the products produced are quite different from each other depending upon their chemical composition, and method of manufacture.

See paras. 33 and 34 of Appellants' specification which well recognizes the conventionality of producing sponge material, yet having properties which can vary quite significantly.

See also the many examples presented in Reichelt, yet none of those examples appears anticipatory of claims 1-10, 13-15, & 19-21.

Instead, the examiner relies on the "permissible inclusion of cellulose fibers;" in what combination?

At col. 12 of Reichelt a substantial list of fillers is presented; but there is no teaching of how any one of those fillers would be used in any one combination with the prepolymers being taught by Reichelt. Which example includes "cellulose fibers?"

Col. 12 of Reichelt expressly teaches that "fillers, in particular reinforcing fillers, are the customary organic and inorganic fillers ... for improving the abrasion behavior in **paints, coatings**, etc." Yet, Appellants' claims 1-10, 13-15, & 19-21 are **not** "paints or coatings."

Col. 12 at lines 25+, also teach "matts, nonwovens and woven fabrics" for the "cellulose fibers," yet these are not relevant to Appellants' claims either.

The examiner's mere finding of "cellulose fiber" in this reference does not support the different compositions recited in claims 1-10, 13-15, & 19-21 being rejected. "Permissible inclusion" is not the same as an anticipation which requires identity of constituents, not shown by the examiner.

It has been held that anticipation cannot be made on mere conjecture (*W.L. Gore & Associates, Inc., v Garlock, Inc.*, 220 USPQ 303, 314, Fed. Cir., 1983, cert. denied, 469 U.S. 851 (1984)). Furthermore, it is stated in *General Tire & Rubber Co. v Firestone Tire Co.*, 174 USPQ 427, 442-443, D.Ct., Ohio, 1972, affirmed in part, 180 USPQ 98, Ct. Ap.,

6th Cir., 1973, that:

"The standards of anticipation are strict. The invention must be disclosed within the four corners of a single reference. If a reference is silent or ambiguous with respect to an element of the invention, that gap cannot be filled by assumption or by combining one reference with another. An anticipating reference must teach the invention; it is not sufficient to point to its silence or ambiguity after the invention and argue that the invention could be made out from reference."

Where does Reichelt teach the various combinations of claims 1-10, 13-15, & 19-21?

Furthermore, in *In re Felton*, 179 USPQ 295 (CCPA, 1973) the CCPA indicated that:

...in view of the purpose for which the Sands' device is intended, it is apparent that it requires no critical dimension which would lead to a structure inherently having those characteristics. Therefore, it would be mere happenstance if any structure according to Sands met the limitations of the claims. An accidental or unwitting duplication of an invention cannot constitute an anticipation [citations omitted]. For this reason, we do not believe that Sands has "identically disclosed or described" the invention as required of an anticipatory reference applied under section 102. The disclosure as a whole cannot be considered to sufficiently direct one skilled in the art to the invention which is a single drop dispenser requiring critical dimensions.

The "dictionary" listing of a myriad of constituents in Reichelt clearly does not anticipate all possible combinations thereof. It would be mere happenstance if any combination **possible or "permissible"** in Reichelt would include cellulose fibers in the combinations recited in claims 1-10, 13-15, & 19-21 being rejected.

Claim 1 expressly recites a polymeric sponge 12 including pliant cellular granules with cellulose fibers 20 imbedded therein.

Where in Reichelt is a teaching that the cellulose

fibers listed at col. 12 for "paints, coatings, matts, nonwovens and woven fabrics" are imbedded in a polymeric sponge in the form of plaint cellular granules?

The examiner simply contends "permissible inclusion of cellulose fibers," but where is the legal support for such bald statement?

At the top of page 4, the "examiner holds that the comprehensiveness of a reference does not derogate from its teaching effect," citing Ex parte A. But, what does this mean in the context of the claims being rejected, and the examiner's duty to support rejections under Section 102 based on specific, identified evidence in a single reference?

How are the facts of Ex parte A relevant to Appellants' claims? Note, in particular, that this very fundamental rule in applying case law is expressly used as well in Ex parte A, yet the examiner has not met this threshold burden here, and simply renders his "holding."

The examiner's "holding" refers to the statement in Ex parte A at page 1718 that:

The tenth edition of Merck Index lists ten thousand compounds. In our view each and every one of those compounds is "described," as that term is used in 35 U.S.C. §102(a), in that publication.

So, of what relevance is this to Appellants' present claims which are not "ten thousand compounds," nor does reference Reichelt list "ten thousand compounds."

Unlike Ex parte A, Reichelt is not listing "ten thousand compounds," but instead lists numerous **permissible** constituents, with those numerous constituents having an infinite number of combinations.

The periodic table includes the known elements. Those elements may be formulated and combined to in turn produce various materials. And, those materials may be further combined to produce numerous parts. And, those numerous parts may then be combined to produce numerous products.

Would all such combinations be anticipated, or rendered obvious, because of the "comprehensiveness of a reference"

which might include the predecessor constituents thereof? Of course not. But, the examiner's contention is to the contrary, and is a clear misapplication of the Ex parte A decision by the Board of Appeals.

Note, the fundamental premise in Ex parte A, clearly overlooked by the examiner. At page 1718, the Board states that:

Appellants have acknowledged (at least implicitly on the written record and expressly upon oral hearing) that the synthetic procedures disclosed in the reference enable the preparation of the compound [***], which is explicitly disclosed at page 13 of the reference. It has not been controverted that the name of the compound disclosed corresponds to the formula presented in appellants' claim 1. Thus, ..., the examiner would have been correct in holding that the claim was anticipated....

Clearly, these facts in Ex parte A are no basis to support the rejection of Appellants' claims. To the contrary, these facts would support the non-anticipation of the claims over Reichelt.

Claim 1 recites a polymeric sponge which is **NOT** defined by name alone as in Ex parte A, but, in contrast is a combination of elements manufactured by a specific process.

And, quite significantly, these Appellants do **NOT** acknowledge that the "procedures disclosed in the [Reichelt] reference enable the preparation of ..." the polymeric sponge as recited in the various claims being rejected.

To the contrary, the examiner has already allowed the product-by-process claims 23-43; and therefore the examiner inherently, if not expressly, recognizes that the process disclosed in Reichelt, as well as in Keppeler, is quite different than the process used to create the products now being rejected by the examiner.

Accordingly, the examiner's use of Ex parte A does not support the anticipation rejection under Section 102, but, to the contrary, supports the patentable distinction of all of Appellants' claims over Reichelt.

Note, the clear correspondence between allowed method

claim 23, and product claim 1. Claim 1 recites a polymeric sponge including granules with cellulose fibers; and allowed method claim 23 recites the process in which the polymeric sponge is formed to include granules with cellulose fibers.

And, claim 1 additionally recites that the granules are pliant.

Although Reichelt teaches both rigid and flexible foams, there appears to be no teaching of pliant cellular granules with imbedded cellulose fibers; and the examiner has not shown otherwise.

Note further that Appellants' claims recite a polymeric sponge having plain meaning as presented above, and the examiner has failed to show how the "articles" disclosed in Reichelt are analogous sponges. See for example, col. 12, ll. 1+, of Reichelt. Are "paints, coatings" analogous to the recited sponges? Can such "paints, coatings" anticipate sponges?

Note yet further that the purpose of the fillers disclosed in Reichelt are "for improving the abrasion behavior of paints, coatings, etc." Yet, the purpose of the cellulose fibers in Appellants' claims is not the same. The fibers in Appellants' process improves the efficacy of that process, and results in a longer lasting granule.

Reichelt discloses only seven (7) examples of specific combinations of constituents out of the infinite number possible from the "comprehensiveness of [the] reference" which lists a myriad of possibilities. None of those seven examples appears to correspond with any of Appellants' claims; and the examiner has not shown otherwise. There is nothing inherent in Reichelt to support the rejection of claim 1, and Section 102 requires more.

Claim 2 recites a sponge wherein the cellulose fibers are chemically bonded in the pliant granules as disclosed at paras. 44 & 76. Yet, there is no disclosure in Reichelt that the foam articles are granulated in a pliant species containing the cellulose fibers bonded therein. Clearly, the

"paint, coatings" disclosed at col. 12, ll. 1+, and the seven examples in Reichelt are not sponges with chemically bonded cellulose fibers therein.

Claim 3 recites a sponge including a water-catalyzed prepolymer as disclosed at paras. 29, 33, & 76 for the advantages of cooperation with the hydrophilic (para. 24) cellulose fibers.

The examiner simply opines that "Water catalysis is inherent..." yet overlooks the specific combination recited in claim 3. That combination includes pliant granules with cellulose fibers in the water-catalyzed prepolymer. Yet again, none of the examples listed in Reichelt appear to meet the stringent requirements under Section 102 in rejecting this claim.

Claim 4 recites a sponge wherein the polymer comprises polyurethane as disclosed at paras. 20 & 29 for example. This water-catalyzed polymer enjoys the synergy of cooperation with the hydrophilic cellulose fibers, which is neither disclosed nor suggested by Reichelt.

That Reichelt discloses the mere constituent polyurethane, does not support the rejection of claim 4 under Section 102, which is a combination claim whose combinations of elements are not found in any one example presented in Reichelt.

Claim 5 recites a sponge wherein the polymer comprises polyether toluene diisocyanate polyurethane as disclosed at paras. 37 & 54 for the synergy of cooperation with the hydrophilic cellulose fibers.

That Reichelt discloses isocyanate and diisocyanates does not support the rejection of this claim under Section 102, which requires more. Claim 5 recites the pliant granules with cellulose fibers in the specific diisocyanate polyurethane, neither disclosed nor suggested by the examples found in Reichelt, and the examiner has not shown otherwise.

See para. 56 et seq. for the preferred process parameters for achieving the ultimate sponge product. The

examiner already recognizes that the product-by-process claims are patentable based on the specific process and constituents found therein. Claim 5 is merely one form of the resulting product, being recited without the corresponding process therefor.

Claim 6 recites "closed cells" for particular advantage as disclosed in the specification at paras. 37, 45, 54, 70, 75, & 76, and in contrast with open cells, see para. 12. Where does Reichelt disclose or suggest closed cells in combination with cellulose fibers in a pliant granular sponge?

At page 4 of the office action, the examiner merely contends "The references' disclosed articles are held to inherently encompass closed cell foams owing to their disclosed products obtained," yet this is mere conclusion, without any basis in the references themselves, or in the relevant art.

Indeed, see col. 6, ll. 1+, of Reichelt wherein "non-cellular polyurethanes" are produced.

Clearly, open and closed cell foam products are the antithesis of each other, and inherently require **differences** in material and/or processing parameters, which differences are not recognized by the examiner. And, non-cellular polyurethanes require yet further differences.

A Section 102 rejection cannot be based on mere conjecture or speculation, but requires stringent identity of features, neither found in Reichelt, nor supported by the examiner, nor "inherent" in the various teachings of Reichelt.

Claim 7 specifically excludes surfactants as disclosed at para. 46 in view of the synergy with the cellulose fibers, in contradistinction to the typical requirement for surfactants as disclosed at para. 36.

Yet, at col. 11, lines 46+, Reichelt specifically discloses "surfactants" (See also col. 9, line 7, of similar reference Keppeler).

The examiner contends at page 4 of the office action

that the surfactants are "optional," yet the examiner has failed to explain in which example in Reichelt such surfactants are optional.

Reichelt discloses a myriad of constituents, all of which could be "optional" according to the examiner's divorced evaluation of the "entire document." Yet, Section 102 requires the examiner to first find evidentiary support in a single reference of a polymeric sponge containing the identical features as recited in Appellants' claims, in the same combination, which in the case of claim 7 would also require the exclusion of the surfactant.

Note, in this regard, that Reichelt discloses the "if desired" surfactants at col. 11, ll. 40+; and at lines 46+ Reichelt also teaches that such "surface-active substances ... aid the homogenization of the starting materials and may also be suitable in regulating the cell structure of the plastics."

Yet, with regard to closed cell structure in claim 6 the examiner simply contended that such cell structure was "inherent," but Reichelt clearly does not support such inherency. If the examiner's optional surfactant is eliminated for claim 7, then how would the closed cell structure of claim 6 be realized in Reichelt?

To be sure, the present art is quite esoteric as the examiner no doubt recognizes; and even small changes in constituents and small changes in process parameters can lead to widely different end products. The examiner's various contentions of applying Reichelt for the "entire document" or for "inherent" or "permissible" features therein fails to afford due weight to the esoteric nature of the Reichelt reference itself, and the art of record, or to Appellants' claims.

Appellants' claims may contain few elements, but those elements are quite specific, and are found in correspondingly specific combinations for which the examiner has failed to afford due, if any, weight, especially in view of the

sophistication of the art of record, and what would be known to those skilled in the art.

Claim 8 recites a sponge further including abrasive particles 18 imbedded therein as introduced at para. 21, which particles are in further combination with the cellulose fibers in the pliant sponge granules.

The examiner has failed to support the rejection of this claim under Reichelt. Col. 12 of Reichelt lists a plethora of various fillers "for improving the abrasion behavior in paints, coatings, etc." Yet, Reichelt clearly does not disclose any combination of those fillers including both cellulose fibers and abrasive particles in the combination recited in claim 8, nor has the examiner shown otherwise.

The examiner, perhaps, might contend that any and all combinations of the listed fillers would be possible or permissible, yet Section 102 requires more; not mere speculation.

Claim 9 specifically excludes a bonding agent on the abrasive particles as disclosed at para. 47, which is possible by the preferred method disclosed at paras. 48-50. Yet, where is this disclosed in any combination in Reichelt?

The examiner simply contends at page 4 that like claim 7, the bonding agent in claim 9 could be excluded as being "if desired" or "optional." Yet, there is no evidentiary or logical support for this mere contention.

The examiner has not disputed the need for bonding agents with abrasives in conventional practice, see para. 47. He merely contends that they would be "optional," but with no evidentiary basis for such conjecture.

What are the resulting end products in Reichelt? The "paints, coatings" disclosed at col. 12? The various foams in the seven examples? Which incorporate any abrasive particle at all? And, which then would exclude bonding agent with any such abrasive?

The examiner relies clearly on the expedient of "optional," but Section 102 requires more, and the examiner

has clearly failed to show where in Reichelt is found any combination meeting the express combination requirements of claim 9, as well as the other claims being rejected.

"Optional," "if desired," "inherency," and speculation of possibilities clearly do not meet the stringent requirements under Section 102, and the examiner's mere contentions in this regard are clear evidence of the failure to establish even a prima facie showing.

Claim 10 recites a sponge wherein the abrasive particles 18 are bonded in the polymer in the pliant sponge granules as disclosed at para. 70.

Although Reichelt discloses polymer-based foam, the examiner has failed to show any example in Reichelt which meets the express combination recited in claim 10. Clearly, the foams disclosed in Reichelt are neither sponges, nor pliant granules, nor do they contain the cellulose fibers in combination with abrasive particles bonded in the polymer, and the examiner has not shown otherwise.

That the plethora of constituents disclosed in Reichelt could be combined in the specific manner recited in claim 10 does not support a rejection thereof under Section 102, which requires the in-fact showing of the same combination, wanting in Reichelt.

And, inasmuch as Reichelt clearly does not disclose the novel process disclosed in Appellants' specification which is used to obtain the various end-product sponges recited in the claims, such as claim 10, it does not follow that Reichelt would be capable of anticipating such claims, including claim 10.

As indicated above, the examiner has failed to explain or support the rejection of claims 13-15 & 19-21, merely belatedly stating that it was his intent to list these claims along with claims 1-10 in the two rejections under Section 102.

Since the examiner has clearly failed to address these claims at all, the rejection thereof is void ab initio for

want of evidence and basis under Section 102.

Claim 13 recites a sponge including catalyzing-water and cellulose fiber in a weight ratio of about 2:1 as disclosed at para. 58 for the specific benefits described thereat.

See col. 6, ll. 5+, of Reichelt which specifies the combination of constituents (a) - (d) in producing the polyurethanes. And, col. 13, ll. 41+, begin the seven examples in Reichelt including the relative proportions of the constituents.

It is not seen how Reichelt, or any of its express examples meets the requirements of claim 13, and the examiner has not shown otherwise. Note that Reichelt clearly teaches the criticality of the constituents therein, represented to the hundredth of part; yet there is no teaching in Reichelt of the specific 2:1 water-to-fiber ratio recited in claim 13, or any suggestion of the specific advantages thereof.

Claim 14 recites a sponge including catalyzing-water less than about 2% by weight.

Para. 59 explains the problems of using water in excess of 2%; and para. 60 presents the benefits of using water less than about 2% due to the beneficial effects of the cellulose fibers in the manufacturing process.

Yet again, the examiner has overlooked this claim, nor has the examiner himself identified anything in "the entire document" of Reichelt to support this rejection.

See Example 1 in Reichelt which uses 2.36 parts water; Example 5 which uses 3.5 parts water; and Example 6 which uses 2.06 parts water. Clearly, none of these specific examples meets the less than about 2% by weight water recited in claim 14, and the examiner has not shown otherwise.

Claim 15 recites a sponge wherein the polymer comprises polyether toluene diisocyanate polyurethane in a matrix comprising primarily only closed cells which is the further combination of the features previously recited in claims 5 and 6.

As indicated above, Reichelt does not present any

example of pliant sponge granules including cellulose fibers with primarily closed cells in the specific polymer recited, and the examiner has not shown otherwise; nor is there even the possibility of inherency in the examples presented in Reichelt.

Independent claim 19 recites a polymeric sponge comprising pliant granules including water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer, and is a further combination of the features introduced in claims 1, 2, 5, and 6.

Yet again, the examiner has overlooked this claim, and the specific combination recited therein, whose features are neither disclosed nor suggested by the disparate reference Reichelt for the additional reasons presented above.

Claim 20 recites a sponge excluding abrasive particles therein as disclosed at paras. 72 and 73, while still maintaining abrasive properties in the pliant sponge granules themselves.

Yet again, the examiner has failed to address this claim, or indicate how it would be anticipated by Reichelt.

The examiner has previously relied on col. 12 of Reichelt for the listing of fillers, which include abrasives and cellulose fibers; yet where is the teaching in Reichelt of any specific combination of such fillers with the various other constituents disclosed in Reichelt? See Examples 1-7.

Claim 21 includes the cellulose fibers for the benefits well disclosed in the specification; yet excludes the abrasive particles, as yet again explained in the specification.

Reichelt is silent on any such combination, and the examiner is equally silent in the rejection. Perhaps in the examiner's Answer he will present **de novo** the missing reasons to reject this claim, as well as the other claims in the group 13-15 and 19-21?

And, perhaps the examiner will yet again rely on

"inherency" or "optional." But, as indicated above, such expedients fail to meet the stringent requirements under Section 102; and Reichelt clearly lacks any products meeting the specific combination of claim 20.

Claim 21 recites a sponge further comprising abrasive particles bonded in the polymer as disclosed at paras. 48 & 70.

Claim 21, also, has been overlooked by the examiner, and it is expected that the examiner will yet again rely on the "if desired" contention for the mere listing of fillers found at col. 12.

However, Reichelt clearly fails to disclose any specific combination of the various fillers listed at col. 12 with the other lists of constituents found in Reichelt, which would in any way be relevant to claim 21, and the examiner has not shown otherwise.

It is again noted that the examiner has already allowed product-by-process claims 23-43 and independent product claims 11 and 12, so the dilemma facing the Appellants, and now the Board, is why the examiner has chosen to ignore certain features of the remaining claims being rejected and not afford any weight thereto.

Are the remaining claims too broadly written for the examiner's standards, with too few elements?

Why disregard "pliant" and "granules" when such terms have plain meaning not only in common dictionaries, but as used in Appellants' specification. And, the previous patents of record and the commercially available Sponge-Jet blasting media are additional examples of pliant shot, and the state of the knowledge of those skilled in the art.

The examiner's interpretation of claim elements may be academic in the broad practice used in the USPTO, but the MPEP still requires "reasonable" interpretation of claim elements based on plain meaning as would be known to those skilled in the art.

The examiner's failure to afford any weight to the

"pliant" and "granule" features of the rejected claims should, alone, be sufficient to reverse all rejections of record.

And, the examiner's failure to evaluate each claim in the whole for the entire combination of elements being recited is additional reason to reverse the rejections.

Accordingly, reversal of the omnibus rejection of claims 1-10, 13-15, and 19-21 under Section 102(e) over Reichelt et al is warranted and is requested.

ISSUE 2

Issue (2) - whether claims 1-10, 13-15, and 19-21 are unpatentable under 35 USC 102(e) over Keppeler et al.

Appellants traverse the rejection of claims 1-10, 13-15, and 19-21 under 35 USC 102(e) over Keppeler et al.

It is again noted that like the Reichelt reference, the Keppeler reference has the same assignee, and both references not only share the common inventor Reichelt, but share common disclosures.

Indeed, the examiner himself has simply copied verbatim his remarks from the rejection under Reichelt, and repeated them for the rejection under Keppeler, without regard to the differences between these two references.

In view of the common arguments presented by the examiner for the two references, the inapplicability of the Keppeler reference is the same as for the Reichelt reference, and all Appellants' remarks presented above apply equally as well here in traversing the omnibus rejection of claims 1-10, 13-15, and 19-21.

However, there is another, significant difference between the two references. And, that is that the Keppeler reference is specific only to **RIGID** (flameproofed) foams as expressly presented therein as introduced at col. 1, line 6+.

Even these two very references being applied by the examiner recognize the fundamental difference between "rigid"

and "flexible," notwithstanding the examiner's own failure to afford any distinction between "rigid" and "pliant" as mere relative terms. The examiner has provided no basis in logic, in the dictionary, in these two patents themselves, or in any other way to support his failure to afford any weight to the "pliant" feature of Appellants' claims, or the "granule" feature as presented above.

Accordingly, since the claims being rejected expressly recite **pliant granules, which are flexible and not rigid**, and since Keppeler expressly discloses foams which are **rigid** the entire rejection must fail ab initio as lacking support or even colorable merit.

Note how the use of Keppeler further teaches away from Appellants' invention. Keppeler clearly includes the many, many constituents like those in Reichelt, and now emphasizes the use of those constituents in producing "rigid, isocyanate-based foams," having no relevance to the pliant sponge being recited in Appellants' claims, and disclosed in the specification.

The examiner's use of the "cellulose fibers" found at col. 9 of Keppeler is now specifically relevant only to the **rigid** foams disclosed in Keppeler, rendering the differences with Appellants' invention even greater.

Claims 1-10, 13-15, & 19-21 all recite pliant granules with cellulose fibers, which is in stark contrast with the **rigid** foam products disclosed in Keppeler, with Keppeler repeatedly emphasizing the rigid nature of the foam.

At col. 10, 11. 13+, Keppeler discloses the mold form of the foams, or conveyor belt alternative, none of which results in the granules recited in Appellants' claims, nor in pliant granules.

Since claim 1 expressly recites a polymeric sponge 12 including pliant cellular granules with cellulose fibers 20 imbedded therein, and Keppeler expressly teaches rigid foam clearly without granular form, Keppeler fails to support the rejection under Section 102.

Where in Keppeler is a teaching that the cellulose fibers listed at col. 9 are imbedded in a polymeric sponge in the form of pliant cellular granules? To the contrary, the resulting products in Keppeler are quite rigid, and therefore not pliant.

Claim 2 recites a sponge wherein the cellulose fibers are chemically bonded in the pliant granules as disclosed at paras. 44 & 76. Yet, there is no disclosure in Keppeler that the foam articles are granulated in a pliant species containing the cellulose fibers bonded therein. Clearly, the eleven (11) examples in Keppeler are not pliant sponges with chemically bonded cellulose fibers therein, but in contrast are rigid foams.

Claim 3 recites a sponge including a water-catalyzed prepolymer as disclosed at paras. 29, 33, & 76 for the advantages of cooperation with the hydrophilic (para. 24) cellulose fibers.

The examiner simply opines that "Water catalysis is inherent..." yet overlooks the specific combination recited in claim 3. That combination includes pliant granules with cellulose fibers in the water-catalyzed prepolymer. Yet again, none of the examples listed in Keppeler appear to meet the stringent requirements under Section 102 in rejecting this claim.

Claim 4 recites a sponge wherein the polymer comprises polyurethane as disclosed at paras. 20 & 29 for example. This water-catalyzed polymer enjoys the synergy of cooperation with the hydrophilic cellulose fibers, which is neither disclosed nor suggested by Keppeler.

That Keppeler discloses the mere constituent polyurethane, does not support the rejection of claim 4 under Section 102, which is a combination claim whose combinations of elements are not found in any one example presented in Keppeler.

Claim 5 recites a sponge wherein the polymer comprises polyether toluene diisocyanate polyurethane as disclosed at

paras. 37 & 54 for the synergy of cooperation with the hydrophilic cellulose fibers.

That Keppeler discloses isocyanate-based foams does not support the rejection of this claim under Section 102, which requires more. Claim 5 recites the pliant granules with cellulose fibers in the specific diisocyanate polyurethane, neither disclosed nor suggested by the examples found in Keppeler, and the examiner has not shown otherwise.

See para. 56 et seq. for the preferred process parameters for achieving the ultimate sponge product. The examiner already recognizes that the product-by-process claims are patentable based on the specific process and constituents found therein. Claim 5 is merely one form of the resulting product, being recited without the corresponding process therefor.

Claim 6 recites "closed cells" for particular advantage as disclosed in the specification at paras. 37, 45, 54, 70, 75, & 76, and in contrast with open cells, see para. 12. Where does Keppeler disclose or suggest closed cells at all, let alone in combination with cellulose fibers in a pliant granular sponge?

At page 4 of the office action, the examiner merely contends "The references' disclosed articles are held to inherently encompass closed cell foams owing to their disclosed products obtained," yet this is mere conclusion, without any basis in the references themselves, or in the relevant art, nor without distinguishing the different products of Keppeler and Reichelt.

Clearly, open and closed cell foam products are the antithesis of each other, and inherently require **differences** in material and/or processing parameters, which differences are not recognized by the examiner. And, non-cellular polyurethanes require yet further differences. Reichelt addresses these cell/no-cell differences; yet such differences do not appear to be relevant in Keppeler, other than the mere listing of cell regulators at the top of col.

9.

A Section 102 rejection cannot be based on mere conjecture or speculation, but requires stringent identity of features, neither found in Keppeler, nor supported by the examiner, nor "inherent" in the various teachings of Keppeler.

Claim 7 specifically excludes surfactants as disclosed at para. 46 in view of the synergy with the cellulose fibers, in contradistinction to the typical requirement for surfactants as disclosed at para. 36.

Yet, at col. 9, lines 7+, Reichelt specifically discloses "surfactants."

The examiner contends at page 4 of the office action that the surfactants are "optional," yet the examiner has failed to explain in which example in Keppeler such surfactants are optional.

Keppeler discloses a myriad of constituents, all of which could be "optional" according to the examiner's divorced evaluation of the "entire document." Yet, Section 102 requires the examiner to first find evidentiary support in a single reference of a polymeric sponge containing the identical features as recited in Appellants' claims, in the same combination, which in the case of claim 7 would also require the exclusion of the surfactant.

Note, in this regard, that Keppeler discloses at col. 9, ll. 7+ that "suitable surfactants ... support homogenization of the starting materials and may also be suitable in regulating the cell structure of the plastics."

Yet, with regard to closed cell structure in claim 6 the examiner simply contended that such cell structure was "inherent," but Keppeler clearly does not support such inherency. If the examiner's optional surfactant is eliminated for claim 7, then how would the closed cell structure of claim 6 be realized in Keppeler?

Claim 8 recites a sponge further including abrasive particles 18 imbedded therein as introduced at para. 21,

which particles are in further combination with the cellulose fibers in the pliant sponge granules.

The examiner has failed to support the rejection of this claim under Keppeler. Col. 9 of Keppeler lists a plethora of various fillers "as known per se." Yet, Keppeler clearly does not disclose any combination of those fillers including both cellulose fibers and abrasive particles in the combination recited in claim 8, nor has the examiner shown otherwise.

The examiner, perhaps, might contend that any and all combinations of the listed fillers would be possible or permissible, yet Section 102 requires more; not mere speculation.

Claim 9 specifically excludes a bonding agent on the abrasive particles as disclosed at para. 47, which is possible by the preferred method disclosed at paras. 48-50. Yet, where is this disclosed in any combination in Keppeler?

The examiner simply contends at page 4 that like claim 7, the bonding agent in claim 9 could be excluded as being "if desired" or "optional." Yet, there is no evidentiary or logical support for this mere contention.

The examiner has not disputed the need for bonding agents with abrasives in conventional practice, see para. 47.

He merely contends that they would be "optional," but with no evidentiary basis for such conjecture.

What are the resulting end products in Keppeler? The rigid flameproofed foams in general, and the various foams in the eleven examples. Which incorporate any abrasive particle at all? And, which then would exclude bonding agent with any such abrasive?

The examiner relies clearly on the expedient of "optional," but Section 102 requires more, and the examiner has clearly failed to show where in Keppeler is found any combination meeting the express combination requirements of claim 9, as well as the other claims being rejected.

"Optional," "if desired," "inherency," and speculation

of possibilities clearly do not meet the stringent requirements under Section 102, and the examiner's mere contentions in this regard are clear evidence of the failure to establish even a prima facie showing.

Claim 10 recites a sponge wherein the abrasive particles 18 are bonded in the polymer in the pliant sponge granules as disclosed at para. 70.

Although Keppeler discloses polymer-based foam, the examiner has failed to show any example in Keppeler which meets the express combination recited in claim 10. Clearly, the foams disclosed in Keppeler are neither sponges, nor pliant granules, nor do they contain the cellulose fibers in combination with abrasive particles bonded in the polymer, and the examiner has not shown otherwise. The foams in Keppeler are quite rigid, which could not be any more different than the pliant sponge granules in Appellants' claims.

That the plethora of constituents disclosed in Keppeler could be combined in the specific manner recited in claim 10 does not support a rejection thereof under Section 102, which requires the in-fact showing of the same combination, wanting in Keppeler.

And, inasmuch as Keppeler clearly does not disclose the novel process disclosed in Appellants' specification which is used to obtain the various end-product sponges recited in the claims, such as claim 10, it does not follow that Keppeler would be capable of anticipating such claims, including claim 10.

As indicated above, the examiner has failed to explain or support the rejection of claims 13-15 & 19-21, merely belatedly stating that it was his intent to list these claims along with claims 1-10 in the two rejections under Section 102.

Since the examiner has clearly failed to address these claims at all, the rejection thereof is void ab initio for want of evidence and basis under Section 102.

Claim 13 recites a sponge including catalyzing-water and cellulose fiber in a weight ratio of about 2:1 as disclosed at para. 58 for the specific benefits described thereat.

See col. 1, ll. 50+, of Keppeler which specifies the combination of constituents (a) - (g) in producing the foams. And, col. 10, ll. 47+, begin the eleven examples in Keppeler including the relative proportions of the constituents.

It is not seen how Keppeler, or any of its express examples meets the requirements of claim 13, and the examiner has not shown otherwise. Note that Keppeler clearly teaches the criticality of the constituents therein, represented to the tenth of part; yet there is no teaching in Keppeler of the specific 2:1 water-to-fiber ratio recited in claim 13, or any suggestion of the specific advantages thereof.

Claim 14 recites a sponge including catalyzing-water less than about 2% by weight.

Para. 59 explains the problems of using water in excess of 2%; and para. 60 presents the benefits of using water less than about 2% due to the beneficial effects of the cellulose fibers in the manufacturing process.

Yet again, the examiner has overlooked this claim, nor has the examiner himself identified anything in "the entire document" of Keppeler to support this rejection.

The eleven examples found in Keppeler include up to 2 parts water, but col. 6, ll. 54+ specify the suitable catalysts (e) which are dependent on the component (b), col. 1, ll. 50+, which are not relevant to Appellants' claims in the whole.

Claim 15 recites a sponge wherein the polymer comprises polyether toluene diisocyanate polyurethane in a matrix comprising primarily only closed cells which is the further combination of the features previously recited in claims 5 and 6.

As indicated above, Keppeler does not present any example of pliant sponge granules including cellulose fibers with primarily closed cells in the specific polymer recited,

and the examiner has not shown otherwise; nor is there even the possibility of inherency in the examples presented in Keppeler.

Independent claim 19 recites a polymeric sponge comprising pliant granules including water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer, and is a further combination of the features introduced in claims 1, 2, 5, and 6.

Yet again, the examiner has overlooked this claim, and the specific combination recited therein, whose features are neither disclosed nor suggested by the disparate reference Keppeler for the additional reasons presented above.

Claim 20 recites a sponge excluding abrasive particles therein as disclosed at paras. 72 and 73, while still maintaining abrasive properties in the pliant sponge granules themselves.

Yet again, the examiner has failed to address this claim, or indicate how it would be anticipated by Keppeler.

The examiner has previously relied on col. 9 of Keppeler for the listing of fillers, which include abrasives and cellulose fibers; yet where is the teaching in Keppeler of any specific combination of such fillers with the various other constituents disclosed in Keppeler? See Examples 1-11.

Claim 21 includes the cellulose fibers for the benefits well disclosed in the specification; yet excludes the abrasive particles, as yet again explained in the specification.

Keppeler is silent on any such combination, and the examiner is equally silent in the rejection. Perhaps in the examiner's Answer he will present **de novo** the missing reasons to reject this claim, as well as the other claims in the group 13-15 and 19-21?

And, perhaps the examiner will yet again rely on "inherency" or "optional." But, as indicated above, such expedients fail to meet the stringent requirements under

Section 102; and Keppeler clearly lacks any products meeting the specific combination of claim 20.

Claim 21 recites a sponge further comprising abrasive particles bonded in the polymer as disclosed at paras. 48 & 70.

Claim 21, also, has been overlooked by the examiner, and it is expected that the examiner will yet again rely on the optional use from the mere listing of fillers found at col. 9.

However, Keppeler clearly fails to disclose any specific combination of the various fillers listed at col. 9 with the other lists of constituents found in Keppeler, which would in any way be relevant to claim 21, and the examiner has not shown otherwise.

Accordingly, reversal of the omnibus rejection of claims 1-10, 13-15, and 19-21 under Section 102(e) over Keppeler et al is warranted and is requested.

For these exemplary reasons, reversal of all the various rejections is warranted, and allowance of rejected claims 1-10, 13-15, and 19-21, is warranted and is requested.

These rejected claims should now join the presently allowed claims, with all claims 1-43 being allowed to issue.

Respectfully submitted,



Francis L. Conte, Attorney
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Date: 30 JAN 2004

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Attachment: Appendix of claims

APPENDIX

Claims on appeal:

1. A polymeric sponge comprising pliant cellular granules including cellulose fibers imbedded therein.
2. A sponge according to claim 1 wherein said cellulose fibers are chemically bonded therein.
3. A sponge according to claim 2 comprising a water-catalyzed prepolymer.
4. A sponge according to claim 3 wherein said polymer comprises polyurethane.
5. A sponge according to claim 3 wherein said polymer comprises polyether toluene diisocyanate polyurethane.
6. A sponge according to claim 3 comprising primarily only closed cells therein.
7. A sponge according to claim 3 excluding surfactant therein.
8. A sponge according to claim 3 further comprising abrasive particles imbedded therein.
9. A sponge according to claim 8 excluding bonding agent on said abrasive particles.
10. A sponge according to claim 8 wherein said abrasive particles are bonded in said polymer.
13. A sponge according to claim 10 comprising catalyzing-water and cellulose fiber in a weight ratio of about 2:1.

14. A sponge according to claim 10 comprising catalyzing-water less than about 2% by weight.

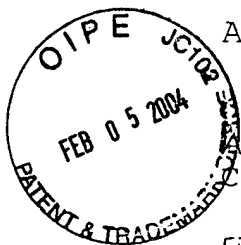
15. A sponge according to claim 3 wherein said polymer comprises polyether toluene diisocyanate polyurethane in a matrix comprising primarily only closed cells.

19. A polymeric sponge comprising pliant granules including water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer.

20. A sponge according to claim 19 excluding abrasive particles therein.

21. A sponge according to claim 19 further comprising abrasive particles bonded in said polymer.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicant: J.S. Shaw et al)
Art Unit: 1711)
Application No.: 09/944,709)
Confirmation No: 1772) Examiner: Cooney, J.M.
Filed: 08/31/2001)
Title: Fiber Imbedded)
Polymeric Sponge)

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES
APPEAL BRIEF

Box AF
Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with 37 CFR 1.192, Appellants hereby submit this Appeal Brief in triplicate and request that the decision of the examiner dated 10/22/03 finally rejecting claims 1-10, 13-15, and 19-21 be reversed and that these claims be allowed.

REAL PARTY IN INTEREST

The real party in interest is the assignee of record.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

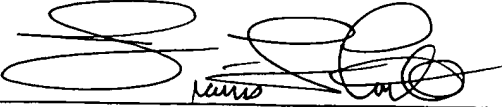
STATUS OF CLAIMS

Claims 1-43 stand pending in the application.
Claims 11, 12, 16-18, and 22-43 stand allowed.
Claims 1-10, 13-15, and 19-21 stand finally rejected and

CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

FRANCIS L. CONTE
(Name of person mailing paper)


(Signature of person mailing paper)

30 JAN 2004
(Date)

are the subject of this Appeal Brief.

STATUS OF AMENDMENTS

There is no amendment filed subsequent to the final rejection.

INTERVIEW SUMMARY

On 16 December 2003, this attorney conducted a phone interview with the examiner to discuss the examiner's failure to afford any weight to the specifically amended features including "pliant granules," but no agreement was reached.

The examiner was unable to offer any suggestions on how these terms might be given weight, notwithstanding their ordinary meaning, their meaning in Appellants' specification, and their meaning in the art of record.

Accordingly, this appeal is the only recourse to resolve the matter.

Furthermore, the examiner's failure to specifically address claims 13-15 and 19-21 in the 06/05/03 office action, as well as in the 10/22/03 final office was brought to the examiner's attention in order to prevent remand by the Board.

At page 12 of the 8/8/03 amendment, Appellants specifically brought to the attention of the examiner:

It is noted that despite the listing of claims at box 6, only claims 1-10 have been in fact rejected, and claims 13-15 and 19-21 have not been rejected for any identified cause.

Accordingly, the rejection of claims 13-15 and 19-21 is void ab initio for lacking any basis under the statute and rules.

However, the examiner yet again failed to provide any basis to reject these claims.

This failure was again brought to the attention of the examiner in the 12/16/03 interview, yet the examiner still did not explain the basis of the rejection in the interview summary.

In this regard, and whether or not the examiner's failure to properly address claims 13-15 and 19-21 "was inadvertent and typographical in nature," it was not for this attorney to agree or not; only the examiner knows his own intention.

The examiner's contention in the interview summary that "such understanding was not agreeable" to this attorney is not an accurate reflection of the interview.

Since the subsequent remarks of the examiner in that interview summary still did not identify the basis to reject claims 13-15 and 19-21, this attorney called the examiner on 7 January 2004 to resolve this prior to appeal; yet the examiner referred this attorney to the examiner's supervisor James Seidleck.

On 8 January 2004, this attorney explained this problem with supervisor Seidleck, and simply requested that the basis for the rejection of claims 13-15 and 19-21 be clearly made of record, perhaps in another interview summary. Mr. Seidleck indicated that he would address the matter with the examiner.

On 8 January 2004, an interview summary dated 7 January 2004 was faxed to this attorney, with the examiner simply stating that: "The record is clear that the rejected claims are 1-10, 13-15, and 19-21 as indicated on the cover sheet of the last Office action." Yet again, the examiner failed to explain the basis for the rejection.

Since that interview summary still did not identify the basis for the rejection, and also incorrectly listed SN 09/949709 (Matsueda, Kazutaka), this attorney again spoke with Mr. Seidleck on 12 January 2004, who again referred the matter to the examiner.

The examiner then contacted this attorney, and submitted another interview summary in which claims 13-15 and 19-21 were added to the rejections under Section 102(e) over the previously applied two references.

The record now appears complete for purposes of this

appeal.

BACKGROUND

At pages 1 & 2 of the specification, the problems associated with manufacturing complex metal parts with precision and fine surface finishes are presented.

Hand grinding, grit blasting, and abrasive tumbling are just examples of typical post-processes used to finish the machined surfaces without damage thereto. However, these post-processes each require special equipment and add to the manufacturing time and cost.

A new process entitled Sustained Surface Scrubbing is being developed by the assignee for quickly and efficiently removing burrs and expulsion and radiusing sharp corners at reduced cost. This basic process is described in US Patent 6,273,788, and is followed by several related patent applications including one issued as US Patent 6,183,347.

The various forms of Sustained Surface Scrubbing disclosed in these applications and patents include a **pliant shot** discharged in a carrier air stream at a shallow angle of incidence against a workpiece for the selective removal of material therefrom. The pliant shot is preferably a polyurethane cellular foam or **sponge in small granular form** and is preferably impregnated with different types of abrasive material as required for correspondingly different abrasive performance.

An earlier form of pliant blasting media is commercially available from Sponge-Jet Inc. of Eliot, Maine under the trademark of SPONGE-JET Media. This sponge media is formed with **open cells** for trapping contaminants during the intended blasting operations.

However, open-cell trapping of contaminants is undesirable in many applications wherein the pliant shot is intended to be reused for reducing costs. The open cell sponge media has limited strength and durability and affects

the performance of the abrasive imbedded therein.

The subject matter of the present application includes a method for manufacturing an improved pliant shot for use in the several forms of Sustained Surface Scrubbing for increasing the strength and durability of the shot, and corresponding performance thereof.

Due to a restriction requirement, a divisional application has been filed for the method itself, and the previous method claims have been amended to product-by-process claims 23-43, all of which stand allowed.

Product claims 11, 12, and 16-18 also stand allowed.

The present appeal is now limited to product claims 1-10, 13-15, and 19-21 which recite different embodiments of the polymeric sponge made by the special method.

SUMMARY OF INVENTION

Claim 1 recites a polymeric sponge 12 comprising pliant cellular granules including cellulose fibers 20 imbedded therein as illustrated in figures 1 and 2, and introduced at page 4, lines 9-21.

Independent claim 19 recites a polymeric sponge 12 comprising pliant granules including water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers 20 chemically bonded in the polymer, again illustrated in figures 1 and 2, and introduced at page 4, lines 9+, and further described at page 8, lines 23-27.

Of particular significance in the polymeric sponge is the inclusion therein of **cellulose fibers** 20 chemically imbedded and bonded in the polymeric matrix 14 of the sponge [note that all bolding found in this brief has been added for emphasis herein]. The cellulose fibers substantially improve the strength, durability, and abrasive performance of the sponge granules, as well as improve the manufacturing process of the sponge itself.

The specification is replete with the substantial advantages introduced by the cellulose fibers, see for example: page 5, lines 1+; page 8, lines 28+; page 9, line 6, to page 10, lines 22+; page 15, lines 3+, and lines 25+; page 16, lines 5-15; and page 18, lines 3+.

The dependent claims are addressed below.

ISSUES

Issue (1) - whether claims 1-10, and 13-15 and 19-21 (see 1/12/04 interview summary) are unpatentable under 35 USC 102(e) over Reichelt et al.

Issue (2) - whether claims 1-10, and 13-15 and 19-21 (see 1/12/04 interview summary) are unpatentable under 35 USC 102(e) over Keppeler et al.

GROUPING OF CLAIMS

The rejected claims do not stand or fall together in each of the separate issues and groups listed above, and are separately argued hereinbelow.

REFERENCES APPLIED

U.S. Patent 5,981,612 - Keppeler et al.

U.S. Patent 6,495,652 - Reichelt et al.

ARGUMENT

It is well noted that most of the claims have already been allowed by the examiner in view of the unique process in which **cellulose fibers** are introduced for making the resulting sponge. This includes the product-by-process claims 23-43, and product claims 11, 12, and 16-18.

Note also that these claims have been found allowable by the examiner over the plethora of art of record including

both Keppeler and Reichelt.

The issues on appeal are therefore limited to only a few product claims, written with few features, which features deserve a fair and objective interpretation, especially when read in light of the specification, and in light of the references of record.

References Reichelt and Keppeler are quite tenuous at best, and were clearly uncovered by the examiner for the incidental inclusion of the "cellulose" features therein, apparently found by mere computer searching. In most respects, these references are not related to Appellants' field of endeavor or specific problems, and would be non-analogous art under Section 103 (not applied here by the examiner).

Note that the examiner previously applied the Bruxvoort et al reference in the 12/05/02 office action for its teaching of "ethylcellulose," without regard to the meaning of that composition, and without regard to the meaning of the "cellulose fibers" recited in Appellants' claims.

However, the shortcomings of that reference were readily overcome in the 03/04/03 amendment response, with copies of CAS Reg. Nos.: 9004-57-3 & 9004-34-6 being attached to that response. This caused the examiner to search yet again and uncover references Reichelt and Keppeler for their incidental inclusion of "cellulose fibers," which references were first applied in the 06/05/03 office action.

These two references share the same assignee and share the common inventor Reichelt, with apparently common subject matter, but different claims. The examiner has failed to show that the methods or products of these references are relevant to Appellants' method and sponge product, or that the products of those references would have any utility as sponge media in the sustained surface scrubbing process for which Appellants' product has been developed.

However, it is also recognized that rejections under Section 102 are highly technical, and are evaluated on a one-

to-one correspondence between claim features and a single reference; yet even by this standard, both rejections under Section 102 must fail since the examiner has admittedly failed to afford any weight whatsoever to the specifically identified features of Appellants' claims.

This will become evident below.

ISSUE 1

Issue (1) - whether claims 1-10, 13-15, and 19-21 are unpatentable under 35 USC 102(e) over Reichelt et al.

Appellants traverse the rejection of claims 1-10, 13-15, and 19-21 under 35 USC 102(e) over Reichelt et al.

In *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984), anticipation requirements under 35 U.S.C. §102 are presented as follows:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. In deciding the issue of anticipation, the trier of fact must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the allegedly anticipating reference. (citations omitted).

The Board of Patent Appeals and Interferences in *Ex parte Levy*, 17 USPQ2d 1461, 1462 (B.P.A.I. 1990) cites *Lindemann* to place the burden of proof upon the examiner as follows:

Moreover, it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference.

Furthermore, the Federal Circuit further held in *Lewmar Marine, Inc. v. Barient, Inc.*, 3 USPQ2d 1766, (1987), cert. denied, 108 S.Ct. 702 (1988) that:

"[t]hat which would *literally* infringe if later in time anticipates if earlier than the date of invention."

Accordingly, anticipation under 35 U.S.C. §102 requires disclosure by a single reference of each and every element recited in a claim functioning in the same manner to produce the same result as the claimed invention.

At the end of the examiner's remarks at the bottom of page 4, the examiner merely concludes:

Applicants' new claim limitation "comprising pliant cellular granules does not distinguish the claims over the cite prior art. The limitation does not define "granules" in a manner which distinguishes over the "articles" of the references, and the term "pliant" without specific values of degree does not present a limitation in the patentable sense.

This, the examiner opines without any support in the Statute, Rules, MPEP, or case law. Examiner argument is never evidence, nor is it controlling.

The MPEP mandates an objective evaluation of claims, and all claim features must be given some meaning, not no meaning.

MPEP 2111.01 states that claims must be given their "plain meaning," unless they are defined in the specification. And, plain meaning refers to the meaning given to the term by those of ordinary skill in the art.

Note that the examiner has not attempted to ascribe any definition to these key terms, whether from the ordinary dictionary, or the specification, or the art of record, or even case law. This is clear, and reversible, error.

Note further, that in the same paragraph the examiner compares the claimed "granules" with the mere "articles" of the references, yet the examiner, himself, has failed to provide any definition for those "articles" or that those "articles" have any "specific values of degree" which might have some bearing on objectively interpreting Appellants'

claims.

Indeed, the examiner stated in the 12/16/03 interview that he considered even the "rigid" foams of the two references to fall within his interpretation of the expressly recited "pliant" feature of the claims since these terms were merely relative terms.

This interpretation, and the examiner's clear failure to interpret ordinary English words for their ordinary meaning is quite remarkable; and no claim would be patentable if examiners were allowed such unbridled latitude in interpreting claim elements. This, again, is clear, and reversible, error.

MPEP 2173.05(b) states that "when a term of degree is present, determine whether a standard is disclosed or whether one of ordinary skill in the art would be apprised of the scope of the claim." The examiner has failed to apply this standard, and was unable in the interview to offer any suggestions based on his years of experience at the USPTO in attempting to resolve this issue.

What then are the elements of the rejected claims?

And, what meaning should be given to them?

These fundamental issues must be addressed before applying any references, including the two disparate references being applied by the examiner.

Both independent claims 1 and 19 recite, inter alia, a "polymeric sponge comprising pliant granules including cellulose fibers...."

The "pliant cellular granules" feature was added to claim 1; and the "pliant granules" feature was added to claim 19 in the last amendment, for which the examiner has admittedly afforded no weight.

The Random House Dictionary provides the following "plain meaning" for terms in the claims and those used by the examiner as reproduced in part as follows:

Sponge: marine animal; light, yielding, porous, fibrous skeleton of Spongia; porous rubber, cellulose,

or similar substance.

Pliant: bending readily; flexible; supple; adaptable; compliant.

Granule: a little grain; a small particle, pellet

Granulate: to form into granules or grains.

Cellulose: an inert carbohydrate $(C_6H_{10}O_5)_n$ made from plant cell walls.

Rigid: stiff or unyielding; not pliant or flexible; hard.

Article: individual object, member or portion of a class.

Clearly, the examiner's mere contention that the "pliant" feature of the claims "does not present a limitation in the patentable sense" is mere conclusion, without any authoritative support; and his contention in the interview that it does not distinguish over the "rigid articles" of Reichelt and Keppeler is equally without support, or even logic.

According to the common dictionary meanings of "pliant" and "rigid" they could not be any different from each other in "plain meaning." Indeed, they are the antithesis of each other, with the definition for "rigid" expressly stating "not pliant."

The examiner's admitted failure to afford due weight to the recited "granules" is equally erroneous. The end products in Reichelt are molded articles, or blocks, sheets, or sandwich elements produced on conveyor belts, see col. 12, line 66, to col. 13, line 5. Clearly such articles are relatively large. Where is any teaching in Reichelt of any granulation process to reform the foams into granules?

And, in the related reference Keppeler, the end products are molded foams suitable for insulating materials in refrigerators, see col. 10, 11. 38-44.

These two claim features "pliant" and "granules" alone are quite sufficient to distinguish all rejected claims over not only the Reichelt reference, but also the Keppeler reference since the examiner has admittedly failed to afford any weight thereto, let alone due weight.

Notwithstanding the common dictionary meaning of the

claim features, Appellants' specification also describes or defines such features repeatedly as used in the special method of production, and the resulting sponge media.

Paras. 11 & 12 recognize the conventionality of pliant shot in the relevant art, based not only on the previous development efforts of the assignee and the resulting patents, but also as commercially available from Sponge-Jet, Inc.

The terms sponge, granule, and pliant are repeatedly found in many paragraphs of the specification, including in particular the following paragraph:

[0020] Figure 2 illustrates greatly enlarged a schematic representation of an exemplary **granule** of the sponge 12. The sponge **defines** a **cellular** foam matrix 14 having a polymer material composition such as polyurethane. The matrix includes minute voids or cells 16 defined by surrounding ligaments of the matrix. The cellular construction and polymeric material composition produce a resilient or **pliant** sponge which is **readily compressible** when used as a blasting sponge media in the Sustained Surface Scrubbing processes described above.

Furthermore, the term pliant is found in many additional paragraphs, including para. 70 as follows:

The sponge is relatively resilient and **pliant** and is **readily compressible** when discharged in a stream of pressurized carrier air for scrubbing against the intended surface for selectively removing material therefrom.

The plain meaning of the term pliant as used in the claims and supporting specification is clearly consistent with the dictionary definition; and clearly is not the same as "rigid" as the examiner contends.

The term granule is further found in the manufacturing process described in para. 32 in which the foam is shredded to granule size. At para. 70, "The resulting sponge granules 12 have a suitably small size of about **several millimeters** with closed cells 16 enclosed by the polymeric matrix 14 reinforced by the cellulose fibers 20 encased therein.

The plain meaning of the granule term as used in the claims and supporting specification is clearly consistent

with the dictionary definition; and is clearly not the same as the inherently large "articles" of Reichelt and Keppeler as the examiner baldly contends.

The plain meaning of the various claim terms may also be determined from the art of record. Pliant blasting media over which the present invention is an improvement is disclosed in US Patents 5146716; 5207034; 5234470; 5256703; 5323638; 5344472; and in the three Sponge-Jet references of record.

Pliant shot for the sustained surface scrubbing process is disclosed in US Patents 6183347, and 6273788, which issued from the application identified in para. 10 of the specification.

Note, quite significantly, that the U.S. class 451 for these last two references, and the class 51 for the previous references, are not the same as those for the two references Reichelt and Keppeler. This is relevant because the examiner's apparent computer search had to go far afield to find the incidental reference to the cellulose fiber element of the claims, which provides the substantial advantages in manufacturing and in the resulting sponge granules, nowhere disclosed or suggested by the disparate references Reichelt and Keppeler.

All the rejected claims include the cellulose fibers 20 in the polymeric sponge pliant granules.

The term cellulose fibers is repeatedly found in specification, along with its many advantages, in paras. 22-24, 27, 30, 40, 41, 43-46, 55, 57, 58, 60, 21, 64, 68, 70, 74, 75, and 76.

In particular, para. 55 identifies a commercially available form of the fibers.

And, para. 68 summarizes certain advantages as follows:

The introduction of the cellulose fibers provides an additional ingredient having particular synergy with the water ingredient for its affinity therefor, as well as providing a synergistic constituent in the matrix

ligaments of the final polymeric sponge improving its strength and durability, and resulting performance when used in the process of Sustained Surface Scrubbing described above.

As indicated above, since the examiner has admitted at the carryover paragraph bridging pages 4 and 5 of the office action that no weight has been given to the "granule" and "pliant" features of the claims, the entire rejection over Reichelt, as well as over Keppeler, must fail for lack of support.

The examiner's further contentions on pages 3 and 4 in response to Appellants' previous remarks fail to address the claims in specificity or those remarks in specificity. Section 102 rejections require strict identity between claims and a single reference, and the examiner's broad use of the plethora of elements in Reichelt (and Keppeler) fails to identify any specific combination of those many, many elements which would meet any of the claims being rejected.

Note again, quite significantly, that the examiner must disregard the "pliant" and "granule" features of Appellants' claims, because Reichelt (and Keppeler) fail to disclose such features in the express **combinations** recited in the rejected claims.

The examiner must also resort to the expedient of "inherency," at page 4, line 12, to support the rejection when closed or open cell foams are clearly not inherent, and require special processing overlooked by the examiner in his rush to reject the claims. See para. 37 of the specification for the production of closed cell granules.

A test for supporting an **inherency** rejection under 35 U.S.C. §102 is found in *Ex parte Levy*, 17 USPQ2d 1461, 1462-1464 (B.P.A.I., 1990) and is reproduced here:

The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed invention. (Citations omitted). Moreover, it is incumbent upon the examiner to identify wherein

each and every facet of the claimed invention is disclosed in the applied reference. (Citation omitted)... However, the initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention rests upon the examiner. (Citation omitted).

In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. (Citations omitted).

In *Corning Glass Works v. Sumitomo Electric U.S.A. Inc.*, 9 USPQ2d 1962, 1965-1966 (Fed. Cir. 1989), the Federal Circuit analyzed a claim reciting "[a]n optical waveguide comprising (a) a cladding layer..., and (b) a core..." which was argued to be anticipated by a patent (i.e., '101) disclosing a luminescent glass fiber having a core and a sheath based on testimony (not supported in the '101 patent) "that the '101 fiber 'inherently' could function as a 'waveguide,' albeit at most for a few meters."

The Federal Circuit cited an anticipation test, i.e.:

Anticipation requires that every limitation of the claim in issue be disclosed, either expressly or under principles of inherency, in a single prior art reference [citation omitted].

The Federal Circuit concluded that:

The claim requires, in addition, the particular structural relationship defined in the specification for the core and cladding to function as an optical waveguide.

Viewed in this manner, the fact that the '101 luminescent fiber could inherently transmit information for a few meters becomes irrelevant. The 101 patent does not disclose all the limitations of the claimed "optical

waveguide" as that term is structurally defined by the '915 inventors [which included a complex equation found in the specification for the structural dimensions and refractive index differential necessary].

Clearly, the examiner's repeated use of mere "inherency" is not supported by logic, or the references being applied.

In the single paragraph bridging pages 2 and 3 of the office action, the examiner applies Reichelt in general to support the rejection of claims 1-10, with no mention of the different claims 13-15 and 19-21, repeatedly overlooked by the examiner.

The examiner's contentions fail to address the specificity of Appellants' claims, and fail to address the specificity of the applied reference. The examiner's contention to "see the entire document" does not support the omnibus rejection of claims 1-10, or 13-15 & 19-21; nor does the examiner's mere contention of "permissible inclusion of cellulose fibers...."

The "entire document" is like a dictionary of chemical constituents in which many, many constituents are listed for breadth; yet at the same time the "entire document" also recognizes the corresponding **differences in possible final products** from different combinations of those constituents.

See, for example only, col. 9, ll. 61+, which states that "it is also possible to use mixtures of polyols for producing flexible or rigid foams." And, of course, flexible and rigid foams could not be any more different from each other.

So where in Reichelt is any teaching of a specific combination of constituents like those recited in claims 1-10, 13-15, & 19-21 having the attributes therefor as disclosed in Appellants' specification?

It appears that the examiner has uncovered the two similar references using a mere computer search for "cellulose fibers," yet this is insufficient to support a rejection under Section 102, especially in this **chemical art**

wherein the products produced are quite different from each other depending upon their chemical composition, and method of manufacture.

See paras. 33 and 34 of Appellants' specification which well recognizes the conventionality of producing sponge material, yet having properties which can vary quite significantly.

See also the many examples presented in Reichelt, yet none of those examples appears anticipatory of claims 1-10, 13-15, & 19-21.

Instead, the examiner relies on the "permissible inclusion of cellulose fibers;" in what combination?

At col. 12 of Reichelt a substantial list of fillers is presented; but there is no teaching of how any one of those fillers would be used in any one combination with the prepolymers being taught by Reichelt. Which example includes "cellulose fibers?"

Col. 12 of Reichelt expressly teaches that "fillers, in particular reinforcing fillers, are the customary organic and inorganic fillers ... for improving the abrasion behavior in **paints, coatings**, etc." Yet, Appellants' claims 1-10, 13-15, & 19-21 are **not** "paints or coatings."

Col. 12 at lines 25+, also teach "matts, nonwovens and woven fabrics" for the "cellulose fibers," yet these are not relevant to Appellants' claims either.

The examiner's mere finding of "cellulose fiber" in this reference does not support the different compositions recited in claims 1-10, 13-15, & 19-21 being rejected. "Permissible inclusion" is not the same as an anticipation which requires identity of constituents, not shown by the examiner.

It has been held that anticipation cannot be made on mere conjecture (*W.L. Gore & Associates, Inc., v Garlock, Inc.*, 220 USPQ 303, 314, Fed. Cir., 1983, cert. denied, 469 U.S. 851 (1984)). Furthermore, it is stated in *General Tire & Rubber Co. v Firestone Tire Co.*, 174 USPQ 427, 442-443, D.Ct., Ohio, 1972, affirmed in part, 180 USPQ 98, Ct. Ap.,

6th Cir., 1973, that:

"The standards of anticipation are strict. The invention must be disclosed within the four corners of a single reference. If a reference is silent or ambiguous with respect to an element of the invention, that gap cannot be filled by assumption or by combining one reference with another. An anticipating reference must teach the invention; it is not sufficient to point to its silence or ambiguity after the invention and argue that the invention could be made out from reference."

Where does Reichelt teach the various combinations of claims 1-10, 13-15, & 19-21?

Furthermore, in *In re Felton*, 179 USPQ 295 (CCPA, 1973) the CCPA indicated that:

...in view of the purpose for which the Sands' device is intended, it is apparent that it requires no critical dimension which would lead to a structure inherently having those characteristics. Therefore, it would be mere happenstance if any structure according to Sands met the limitations of the claims. An accidental or unwitting duplication of an invention cannot constitute an anticipation [citations omitted]. For this reason, we do not believe that Sands has "identically disclosed or described" the invention as required of an anticipatory reference applied under section 102. The disclosure as a whole cannot be considered to sufficiently direct one skilled in the art to the invention which is a single drop dispenser requiring critical dimensions.

The "dictionary" listing of a myriad of constituents in Reichelt clearly does not anticipate all possible combinations thereof. It would be mere happenstance if any combination **possible or "permissible"** in Reichelt would include cellulose fibers in the combinations recited in claims 1-10, 13-15, & 19-21 being rejected.

Claim 1 expressly recites a polymeric sponge 12 including pliant cellular granules with cellulose fibers 20 imbedded therein.

Where in Reichelt is a teaching that the cellulose

fibers listed at col. 12 for "paints, coatings, matts, nonwovens and woven fabrics" are imbedded in a polymeric sponge in the form of plaint cellular granules?

The examiner simply contends "permissible inclusion of cellulose fibers," but where is the legal support for such bald statement?

At the top of page 4, the "examiner holds that the comprehensiveness of a reference does not derogate from its teaching effect," citing Ex parte A. But, what does this mean in the context of the claims being rejected, and the examiner's duty to support rejections under Section 102 based on specific, identified evidence in a single reference?

How are the facts of Ex parte A relevant to Appellants' claims? Note, in particular, that this very fundamental rule in applying case law is expressly used as well in Ex parte A, yet the examiner has not met this threshold burden here, and simply renders his "holding."

The examiner's "holding" refers to the statement in Ex parte A at page 1718 that:

The tenth edition of Merck Index lists ten thousand compounds. In our view each and every one of those compounds is "described," as that term is used in 35 U.S.C. §102(a), in that publication.

So, of what relevance is this to Appellants' present claims which are not "ten thousand compounds," nor does reference Reichelt list "ten thousand compounds."

Unlike Ex parte A, Reichelt is not listing "ten thousand compounds," but instead lists numerous **permissible** constituents, with those numerous constituents having an infinite number of combinations.

The periodic table includes the known elements. Those elements may be formulated and combined to in turn produce various materials. And, those materials may be further combined to produce numerous parts. And, those numerous parts may then be combined to produce numerous products.

Would all such combinations be anticipated, or rendered obvious, because of the "comprehensiveness of a reference"

which might include the predecessor constituents thereof? Of course not. But, the examiner's contention is to the contrary, and is a clear misapplication of the Ex parte A decision by the Board of Appeals.

Note, the fundamental premise in Ex parte A, clearly overlooked by the examiner. At page 1718, the Board states that:

Appellants have acknowledged (at least implicitly on the written record and expressly upon oral hearing) that the synthetic procedures disclosed in the reference enable the preparation of the compound [***], which is explicitly disclosed at page 13 of the reference. It has not been controverted that the name of the compound disclosed corresponds to the formula presented in appellants' claim 1. Thus, ..., the examiner would have been correct in holding that the claim was anticipated....

Clearly, these facts in Ex parte A are no basis to support the rejection of Appellants' claims. To the contrary, these facts would support the non-anticipation of the claims over Reichelt.

Claim 1 recites a polymeric sponge which is **NOT** defined by name alone as in Ex parte A, but, in contrast is a combination of elements manufactured by a specific process.

And, quite significantly, these Appellants do **NOT** acknowledge that the "procedures disclosed in the [Reichelt] reference enable the preparation of ..." the polymeric sponge as recited in the various claims being rejected.

To the contrary, the examiner has already allowed the product-by-process claims 23-43; and therefore the examiner inherently, if not expressly, recognizes that the process disclosed in Reichelt, as well as in Keppeler, is quite different than the process used to create the products now being rejected by the examiner.

Accordingly, the examiner's use of Ex parte A does not support the anticipation rejection under Section 102, but, to the contrary, supports the patentable distinction of all of Appellants' claims over Reichelt.

Note, the clear correspondence between allowed method

claim 23, and product claim 1. Claim 1 recites a polymeric sponge including granules with cellulose fibers; and allowed method claim 23 recites the process in which the polymeric sponge is formed to include granules with cellulose fibers.

And, claim 1 additionally recites that the granules are pliant.

Although Reichelt teaches both rigid and flexible foams, there appears to be no teaching of pliant cellular granules with imbedded cellulose fibers; and the examiner has not shown otherwise.

Note further that Appellants' claims recite a polymeric sponge having plain meaning as presented above, and the examiner has failed to show how the "articles" disclosed in Reichelt are analogous sponges. See for example, col. 12, ll. 1+, of Reichelt. Are "paints, coatings" analogous to the recited sponges? Can such "paints, coatings" anticipate sponges?

Note yet further that the purpose of the fillers disclosed in Reichelt are "for improving the abrasion behavior of paints, coatings, etc." Yet, the purpose of the cellulose fibers in Appellants' claims is not the same. The fibers in Appellants' process improves the efficacy of that process, and results in a longer lasting granule.

Reichelt discloses only seven (7) examples of specific combinations of constituents out of the infinite number possible from the "comprehensiveness of [the] reference" which lists a myriad of possibilities. None of those seven examples appears to correspond with any of Appellants' claims; and the examiner has not shown otherwise. There is nothing inherent in Reichelt to support the rejection of claim 1, and Section 102 requires more.

Claim 2 recites a sponge wherein the cellulose fibers are chemically bonded in the pliant granules as disclosed at paras. 44 & 76. Yet, there is no disclosure in Reichelt that the foam articles are granulated in a pliant species containing the cellulose fibers bonded therein. Clearly, the

"paint, coatings" disclosed at col. 12, ll. 1+, and the seven examples in Reichelt are not sponges with chemically bonded cellulose fibers therein.

Claim 3 recites a sponge including a water-catalyzed prepolymer as disclosed at paras. 29, 33, & 76 for the advantages of cooperation with the hydrophilic (para. 24) cellulose fibers.

The examiner simply opines that "Water catalysis is inherent..." yet overlooks the specific combination recited in claim 3. That combination includes pliant granules with cellulose fibers in the water-catalyzed prepolymer. Yet again, none of the examples listed in Reichelt appear to meet the stringent requirements under Section 102 in rejecting this claim.

Claim 4 recites a sponge wherein the polymer comprises polyurethane as disclosed at paras. 20 & 29 for example. This water-catalyzed polymer enjoys the synergy of cooperation with the hydrophilic cellulose fibers, which is neither disclosed nor suggested by Reichelt.

That Reichelt discloses the mere constituent polyurethane, does not support the rejection of claim 4 under Section 102, which is a combination claim whose combinations of elements are not found in any one example presented in Reichelt.

Claim 5 recites a sponge wherein the polymer comprises polyether toluene diisocyanate polyurethane as disclosed at paras. 37 & 54 for the synergy of cooperation with the hydrophilic cellulose fibers.

That Reichelt discloses isocyanate and diisocyanates does not support the rejection of this claim under Section 102, which requires more. Claim 5 recites the pliant granules with cellulose fibers in the specific diisocyanate polyurethane, neither disclosed nor suggested by the examples found in Reichelt, and the examiner has not shown otherwise.

See para. 56 et seq. for the preferred process parameters for achieving the ultimate sponge product. The

examiner already recognizes that the product-by-process claims are patentable based on the specific process and constituents found therein. Claim 5 is merely one form of the resulting product, being recited without the corresponding process therefor.

Claim 6 recites "closed cells" for particular advantage as disclosed in the specification at paras. 37,45,54,70,75, & 76, and in contrast with open cells, see para. 12. Where does Reichelt disclose or suggest closed cells in combination with cellulose fibers in a pliant granular sponge?

At page 4 of the office action, the examiner merely contends "The references' disclosed articles are held to inherently encompass closed cell foams owing to their disclosed products obtained," yet this is mere conclusion, without any basis in the references themselves, or in the relevant art.

Indeed, see col. 6, ll. 1+, of Reichelt wherein "non-cellular polyurethanes" are produced.

Clearly, open and closed cell foam products are the antithesis of each other, and inherently require **differences** in material and/or processing parameters, which differences are not recognized by the examiner. And, non-cellular polyurethanes require yet further differences.

A Section 102 rejection cannot be based on mere conjecture or speculation, but requires stringent identity of features, neither found in Reichelt, nor supported by the examiner, nor "inherent" in the various teachings of Reichelt.

Claim 7 specifically excludes surfactants as disclosed at para. 46 in view of the synergy with the cellulose fibers, in contradistinction to the typical requirement for surfactants as disclosed at para. 36.

Yet, at col. 11, lines 46+, Reichelt specifically discloses "surfactants" (See also col. 9, line 7, of similar reference Keppeler).

The examiner contends at page 4 of the office action

that the surfactants are "optional," yet the examiner has failed to explain in which example in Reichelt such surfactants are optional.

Reichelt discloses a myriad of constituents, all of which could be "optional" according to the examiner's divorced evaluation of the "entire document." Yet, Section 102 requires the examiner to first find evidentiary support in a single reference of a polymeric sponge containing the identical features as recited in Appellants' claims, in the same combination, which in the case of claim 7 would also require the exclusion of the surfactant.

Note, in this regard, that Reichelt discloses the "if desired" surfactants at col. 11, ll. 40+; and at lines 46+ Reichelt also teaches that such "surface-active substances ... aid the homogenization of the starting materials and may also be suitable in regulating the cell structure of the plastics."

Yet, with regard to closed cell structure in claim 6 the examiner simply contended that such cell structure was "inherent," but Reichelt clearly does not support such inherency. If the examiner's optional surfactant is eliminated for claim 7, then how would the closed cell structure of claim 6 be realized in Reichelt?

To be sure, the present art is quite esoteric as the examiner no doubt recognizes; and even small changes in constituents and small changes in process parameters can lead to widely different end products. The examiner's various contentions of applying Reichelt for the "entire document" or for "inherent" or "permissible" features therein fails to afford due weight to the esoteric nature of the Reichelt reference itself, and the art of record, or to Appellants' claims.

Appellants' claims may contain few elements, but those elements are quite specific, and are found in correspondingly specific combinations for which the examiner has failed to afford due, if any, weight, especially in view of the

sophistication of the art of record, and what would be known to those skilled in the art.

Claim 8 recites a sponge further including abrasive particles 18 imbedded therein as introduced at para. 21, which particles are in further combination with the cellulose fibers in the pliant sponge granules.

The examiner has failed to support the rejection of this claim under Reichelt. Col. 12 of Reichelt lists a plethora of various fillers "for improving the abrasion behavior in paints, coatings, etc." Yet, Reichelt clearly does not disclose any combination of those fillers including both cellulose fibers and abrasive particles in the combination recited in claim 8, nor has the examiner shown otherwise.

The examiner, perhaps, might contend that any and all combinations of the listed fillers would be possible or permissible, yet Section 102 requires more; not mere speculation.

Claim 9 specifically excludes a bonding agent on the abrasive particles as disclosed at para. 47, which is possible by the preferred method disclosed at paras. 48-50. Yet, where is this disclosed in any combination in Reichelt?

The examiner simply contends at page 4 that like claim 7, the bonding agent in claim 9 could be excluded as being "if desired" or "optional." Yet, there is no evidentiary or logical support for this mere contention.

The examiner has not disputed the need for bonding agents with abrasives in conventional practice, see para. 47.

He merely contends that they would be "optional," but with no evidentiary basis for such conjecture.

What are the resulting end products in Reichelt? The "paints, coatings" disclosed at col. 12? The various foams in the seven examples? Which incorporate any abrasive particle at all? And, which then would exclude bonding agent with any such abrasive?

The examiner relies clearly on the expedient of "optional," but Section 102 requires more, and the examiner

has clearly failed to show where in Reichelt is found any combination meeting the express combination requirements of claim 9, as well as the other claims being rejected.

"Optional," "if desired," "inherency," and speculation of possibilities clearly do not meet the stringent requirements under Section 102, and the examiner's mere contentions in this regard are clear evidence of the failure to establish even a prima facie showing.

Claim 10 recites a sponge wherein the abrasive particles 18 are bonded in the polymer in the pliant sponge granules as disclosed at para. 70.

Although Reichelt discloses polymer-based foam, the examiner has failed to show any example in Reichelt which meets the express combination recited in claim 10. Clearly, the foams disclosed in Reichelt are neither sponges, nor pliant granules, nor do they contain the cellulose fibers in combination with abrasive particles bonded in the polymer, and the examiner has not shown otherwise.

That the plethora of constituents disclosed in Reichelt could be combined in the specific manner recited in claim 10 does not support a rejection thereof under Section 102, which requires the in-fact showing of the same combination, wanting in Reichelt.

And, inasmuch as Reichelt clearly does not disclose the novel process disclosed in Appellants' specification which is used to obtain the various end-product sponges recited in the claims, such as claim 10, it does not follow that Reichelt would be capable of anticipating such claims, including claim 10.

As indicated above, the examiner has failed to explain or support the rejection of claims 13-15 & 19-21, merely belatedly stating that it was his intent to list these claims along with claims 1-10 in the two rejections under Section 102.

Since the examiner has clearly failed to address these claims at all, the rejection thereof is void ab initio for

want of evidence and basis under Section 102.

Claim 13 recites a sponge including catalyzing-water and cellulose fiber in a weight ratio of about 2:1 as disclosed at para. 58 for the specific benefits described thereat.

See col. 6, ll. 5+, of Reichelt which specifies the combination of constituents (a) - (d) in producing the polyurethanes. And, col. 13, ll. 41+, begin the seven examples in Reichelt including the relative proportions of the constituents.

It is not seen how Reichelt, or any of its express examples meets the requirements of claim 13, and the examiner has not shown otherwise. Note that Reichelt clearly teaches the criticality of the constituents therein, represented to the hundredth of part; yet there is no teaching in Reichelt of the specific 2:1 water-to-fiber ratio recited in claim 13, or any suggestion of the specific advantages thereof.

Claim 14 recites a sponge including catalyzing-water less than about 2% by weight.

Para. 59 explains the problems of using water in excess of 2%; and para. 60 presents the benefits of using water less than about 2% due to the beneficial effects of the cellulose fibers in the manufacturing process.

Yet again, the examiner has overlooked this claim, nor has the examiner himself identified anything in "the entire document" of Reichelt to support this rejection.

See Example 1 in Reichelt which uses 2.36 parts water; Example 5 which uses 3.5 parts water; and Example 6 which uses 2.06 parts water. Clearly, none of these specific examples meets the less than about 2% by weight water recited in claim 14, and the examiner has not shown otherwise.

Claim 15 recites a sponge wherein the polymer comprises polyether toluene diisocyanate polyurethane in a matrix comprising primarily only closed cells which is the further combination of the features previously recited in claims 5 and 6.

As indicated above, Reichelt does not present any

example of pliant sponge granules including cellulose fibers with primarily closed cells in the specific polymer recited, and the examiner has not shown otherwise; nor is there even the possibility of inherency in the examples presented in Reichelt.

Independent claim 19 recites a polymeric sponge comprising pliant granules including water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer, and is a further combination of the features introduced in claims 1, 2, 5, and 6.

Yet again, the examiner has overlooked this claim, and the specific combination recited therein, whose features are neither disclosed nor suggested by the disparate reference Reichelt for the additional reasons presented above.

Claim 20 recites a sponge excluding abrasive particles therein as disclosed at paras. 72 and 73, while still maintaining abrasive properties in the pliant sponge granules themselves.

Yet again, the examiner has failed to address this claim, or indicate how it would be anticipated by Reichelt.

The examiner has previously relied on col. 12 of Reichelt for the listing of fillers, which include abrasives and cellulose fibers; yet where is the teaching in Reichelt of any specific combination of such fillers with the various other constituents disclosed in Reichelt? See Examples 1-7.

Claim 21 includes the cellulose fibers for the benefits well disclosed in the specification; yet excludes the abrasive particles, as yet again explained in the specification.

Reichelt is silent on any such combination, and the examiner is equally silent in the rejection. Perhaps in the examiner's Answer he will present *de novo* the missing reasons to reject this claim, as well as the other claims in the group 13-15 and 19-21?

And, perhaps the examiner will yet again rely on

"inherency" or "optional." But, as indicated above, such expedients fail to meet the stringent requirements under Section 102; and Reichelt clearly lacks any products meeting the specific combination of claim 20.

Claim 21 recites a sponge further comprising abrasive particles bonded in the polymer as disclosed at paras. 48 & 70.

Claim 21, also, has been overlooked by the examiner, and it is expected that the examiner will yet again rely on the "if desired" contention for the mere listing of fillers found at col. 12.

However, Reichelt clearly fails to disclose any specific combination of the various fillers listed at col. 12 with the other lists of constituents found in Reichelt, which would in any way be relevant to claim 21, and the examiner has not shown otherwise.

It is again noted that the examiner has already allowed product-by-process claims 23-43 and independent product claims 11 and 12, so the dilemma facing the Appellants, and now the Board, is why the examiner has chosen to ignore certain features of the remaining claims being rejected and not afford any weight thereto.

Are the remaining claims too broadly written for the examiner's standards, with too few elements?

Why disregard "pliant" and "granules" when such terms have plain meaning not only in common dictionaries, but as used in Appellants' specification. And, the previous patents of record and the commercially available Sponge-Jet blasting media are additional examples of pliant shot, and the state of the knowledge of those skilled in the art.

The examiner's interpretation of claim elements may be academic in the broad practice used in the USPTO, but the MPEP still requires "reasonable" interpretation of claim elements based on plain meaning as would be known to those skilled in the art.

The examiner's failure to afford any weight to the

"pliant" and "granule" features of the rejected claims should, alone, be sufficient to reverse all rejections of record.

And, the examiner's failure to evaluate each claim in the whole for the entire combination of elements being recited is additional reason to reverse the rejections.

Accordingly, reversal of the omnibus rejection of claims 1-10, 13-15, and 19-21 under Section 102(e) over Reichelt et al is warranted and is requested.

ISSUE 2

Issue (2) - whether claims 1-10, 13-15, and 19-21 are unpatentable under 35 USC 102(e) over Keppeler et al.

Appellants traverse the rejection of claims 1-10, 13-15, and 19-21 under 35 USC 102(e) over Keppeler et al.

It is again noted that like the Reichelt reference, the Keppeler reference has the same assignee, and both references not only share the common inventor Reichelt, but share common disclosures.

Indeed, the examiner himself has simply copied verbatim his remarks from the rejection under Reichelt, and repeated them for the rejection under Keppeler, without regard to the differences between these two references.

In view of the common arguments presented by the examiner for the two references, the inapplicability of the Keppeler reference is the same as for the Reichelt reference, and all Appellants' remarks presented above apply equally as well here in traversing the omnibus rejection of claims 1-10, 13-15, and 19-21.

However, there is another, significant difference between the two references. And, that is that the Keppeler reference is specific only to **RIGID** (flameproofed) foams as expressly presented therein as introduced at col. 1, line 6+.

Even these two very references being applied by the examiner recognize the fundamental difference between "rigid"

and "flexible," notwithstanding the examiner's own failure to afford any distinction between "rigid" and "pliant" as mere relative terms. The examiner has provided no basis in logic, in the dictionary, in these two patents themselves, or in any other way to support his failure to afford any weight to the "pliant" feature of Appellants' claims, or the "granule" feature as presented above.

Accordingly, since the claims being rejected expressly recite **pliant granules, which are flexible and not rigid**, and since Keppeler expressly discloses foams which are **rigid** the entire rejection must fail ab initio as lacking support or even colorable merit.

Note how the use of Keppeler further teaches away from Appellants' invention. Keppeler clearly includes the many, many constituents like those in Reichelt, and now emphasizes the use of those constituents in producing "rigid, isocyanate-based foams," having no relevance to the pliant sponge being recited in Appellants' claims, and disclosed in the specification.

The examiner's use of the "cellulose fibers" found at col. 9 of Keppeler is now specifically relevant only to the **rigid** foams disclosed in Keppeler, rendering the differences with Appellants' invention even greater.

Claims 1-10, 13-15, & 19-21 all recite pliant granules with cellulose fibers, which is in stark contrast with the **rigid** foam products disclosed in Keppeler, with Keppeler repeatedly emphasizing the rigid nature of the foam.

At col. 10, 11. 13+, Keppeler discloses the mold form of the foams, or conveyor belt alternative, none of which results in the granules recited in Appellants' claims, nor in pliant granules.

Since claim 1 expressly recites a polymeric sponge 12 including pliant cellular granules with cellulose fibers 20 imbedded therein, and Keppeler expressly teaches rigid foam clearly without granular form, Keppeler fails to support the rejection under Section 102.

Where in Keppeler is a teaching that the cellulose fibers listed at col. 9 are imbedded in a polymeric sponge in the form of pliant cellular granules? To the contrary, the resulting products in Keppeler are quite rigid, and therefore not pliant.

Claim 2 recites a sponge wherein the cellulose fibers are chemically bonded in the pliant granules as disclosed at paras. 44 & 76. Yet, there is no disclosure in Keppeler that the foam articles are granulated in a pliant species containing the cellulose fibers bonded therein. Clearly, the eleven (11) examples in Keppeler are not pliant sponges with chemically bonded cellulose fibers therein, but in contrast are rigid foams.

Claim 3 recites a sponge including a water-catalyzed prepolymer as disclosed at paras. 29, 33, & 76 for the advantages of cooperation with the hydrophilic (para. 24) cellulose fibers.

The examiner simply opines that "Water catalysis is inherent....," yet overlooks the specific combination recited in claim 3. That combination includes pliant granules with cellulose fibers in the water-catalyzed prepolymer. Yet again, none of the examples listed in Keppeler appear to meet the stringent requirements under Section 102 in rejecting this claim.

Claim 4 recites a sponge wherein the polymer comprises polyurethane as disclosed at paras. 20 & 29 for example. This water-catalyzed polymer enjoys the synergy of cooperation with the hydrophilic cellulose fibers, which is neither disclosed nor suggested by Keppeler.

That Keppeler discloses the mere constituent polyurethane, does not support the rejection of claim 4 under Section 102, which is a combination claim whose combinations of elements are not found in any one example presented in Keppeler.

Claim 5 recites a sponge wherein the polymer comprises polyether toluene diisocyanate polyurethane as disclosed at

paras. 37 & 54 for the synergy of cooperation with the hydrophilic cellulose fibers.

That Keppeler discloses isocyanate-based foams does not support the rejection of this claim under Section 102, which requires more. Claim 5 recites the pliant granules with cellulose fibers in the specific diisocyanate polyurethane, neither disclosed nor suggested by the examples found in Keppeler, and the examiner has not shown otherwise.

See para. 56 et seq. for the preferred process parameters for achieving the ultimate sponge product. The examiner already recognizes that the product-by-process claims are patentable based on the specific process and constituents found therein. Claim 5 is merely one form of the resulting product, being recited without the corresponding process therefor.

Claim 6 recites "closed cells" for particular advantage as disclosed in the specification at paras. 37, 45, 54, 70, 75, & 76, and in contrast with open cells, see para. 12. Where does Keppeler disclose or suggest closed cells at all, let alone in combination with cellulose fibers in a pliant granular sponge?

At page 4 of the office action, the examiner merely contends "The references' disclosed articles are held to inherently encompass closed cell foams owing to their disclosed products obtained," yet this is mere conclusion, without any basis in the references themselves, or in the relevant art, nor without distinguishing the different products of Keppeler and Reichelt.

Clearly, open and closed cell foam products are the antithesis of each other, and inherently require **differences** in material and/or processing parameters, which differences are not recognized by the examiner. And, non-cellular polyurethanes require yet further differences. Reichelt addresses these cell/no-cell differences; yet such differences do not appear to be relevant in Keppeler, other than the mere listing of cell regulators at the top of col.

9.

A Section 102 rejection cannot be based on mere conjecture or speculation, but requires stringent identity of features, neither found in Keppeler, nor supported by the examiner, nor "inherent" in the various teachings of Keppeler.

Claim 7 specifically excludes surfactants as disclosed at para. 46 in view of the synergy with the cellulose fibers, in contradistinction to the typical requirement for surfactants as disclosed at para. 36.

Yet, at col. 9, lines 7+, Reichelt specifically discloses "surfactants."

The examiner contends at page 4 of the office action that the surfactants are "optional," yet the examiner has failed to explain in which example in Keppeler such surfactants are optional.

Keppeler discloses a myriad of constituents, all of which could be "optional" according to the examiner's divorced evaluation of the "entire document." Yet, Section 102 requires the examiner to first find evidentiary support in a single reference of a polymeric sponge containing the identical features as recited in Appellants' claims, in the same combination, which in the case of claim 7 would also require the exclusion of the surfactant.

Note, in this regard, that Keppeler discloses at col. 9, ll. 7+ that "suitable surfactants ... support homogenization of the starting materials and may also be suitable in regulating the cell structure of the plastics."

Yet, with regard to closed cell structure in claim 6 the examiner simply contended that such cell structure was "inherent," but Keppeler clearly does not support such inherency. If the examiner's optional surfactant is eliminated for claim 7, then how would the closed cell structure of claim 6 be realized in Keppeler?

Claim 8 recites a sponge further including abrasive particles 18 imbedded therein as introduced at para. 21,

which particles are in further combination with the cellulose fibers in the pliant sponge granules.

The examiner has failed to support the rejection of this claim under Keppeler. Col. 9 of Keppeler lists a plethora of various fillers "as known per se." Yet, Keppeler clearly does not disclose any combination of those fillers including both cellulose fibers and abrasive particles in the combination recited in claim 8, nor has the examiner shown otherwise.

The examiner, perhaps, might contend that any and all combinations of the listed fillers would be possible or permissible, yet Section 102 requires more; not mere speculation.

Claim 9 specifically excludes a bonding agent on the abrasive particles as disclosed at para. 47, which is possible by the preferred method disclosed at paras. 48-50. Yet, where is this disclosed in any combination in Keppeler?

The examiner simply contends at page 4 that like claim 7, the bonding agent in claim 9 could be excluded as being "if desired" or "optional." Yet, there is no evidentiary or logical support for this mere contention.

The examiner has not disputed the need for bonding agents with abrasives in conventional practice, see para. 47.

He merely contends that they would be "optional," but with no evidentiary basis for such conjecture.

What are the resulting end products in Keppeler? The rigid flameproofed foams in general, and the various foams in the eleven examples. Which incorporate any abrasive particle at all? And, which then would exclude bonding agent with any such abrasive?

The examiner relies clearly on the expedient of "optional," but Section 102 requires more, and the examiner has clearly failed to show where in Keppeler is found any combination meeting the express combination requirements of claim 9, as well as the other claims being rejected.

"Optional," "if desired," "inherency," and speculation

of possibilities clearly do not meet the stringent requirements under Section 102, and the examiner's mere contentions in this regard are clear evidence of the failure to establish even a prima facie showing.

Claim 10 recites a sponge wherein the abrasive particles 18 are bonded in the polymer in the pliant sponge granules as disclosed at para. 70.

Although Keppeler discloses polymer-based foam, the examiner has failed to show any example in Keppeler which meets the express combination recited in claim 10. Clearly, the foams disclosed in Keppeler are neither sponges, nor pliant granules, nor do they contain the cellulose fibers in combination with abrasive particles bonded in the polymer, and the examiner has not shown otherwise. The foams in Keppeler are quite rigid, which could not be any more different than the pliant sponge granules in Appellants' claims.

That the plethora of constituents disclosed in Keppeler could be combined in the specific manner recited in claim 10 does not support a rejection thereof under Section 102, which requires the in-fact showing of the same combination, wanting in Keppeler.

And, inasmuch as Keppeler clearly does not disclose the novel process disclosed in Appellants' specification which is used to obtain the various end-product sponges recited in the claims, such as claim 10, it does not follow that Keppeler would be capable of anticipating such claims, including claim 10.

As indicated above, the examiner has failed to explain or support the rejection of claims 13-15 & 19-21, merely belatedly stating that it was his intent to list these claims along with claims 1-10 in the two rejections under Section 102.

Since the examiner has clearly failed to address these claims at all, the rejection thereof is void ab initio for want of evidence and basis under Section 102.

Claim 13 recites a sponge including catalyzing-water and cellulose fiber in a weight ratio of about 2:1 as disclosed at para. 58 for the specific benefits described thereat.

See col. 1, ll. 50+, of Keppeler which specifies the combination of constituents (a) - (g) in producing the foams. And, col. 10, ll. 47+, begin the eleven examples in Keppeler including the relative proportions of the constituents.

It is not seen how Keppeler, or any of its express examples meets the requirements of claim 13, and the examiner has not shown otherwise. Note that Keppeler clearly teaches the criticality of the constituents therein, represented to the tenth of part; yet there is no teaching in Keppeler of the specific 2:1 water-to-fiber ratio recited in claim 13, or any suggestion of the specific advantages thereof.

Claim 14 recites a sponge including catalyzing-water less than about 2% by weight.

Para. 59 explains the problems of using water in excess of 2%; and para. 60 presents the benefits of using water less than about 2% due to the beneficial effects of the cellulose fibers in the manufacturing process.

Yet again, the examiner has overlooked this claim, nor has the examiner himself identified anything in "the entire document" of Keppeler to support this rejection.

The eleven examples found in Keppeler include up to 2 parts water, but col. 6, ll. 54+ specify the suitable catalysts (e) which are dependent on the component (b), col. 1, ll. 50+, which are not relevant to Appellants' claims in the whole.

Claim 15 recites a sponge wherein the polymer comprises polyether toluene diisocyanate polyurethane in a matrix comprising primarily only closed cells which is the further combination of the features previously recited in claims 5 and 6.

As indicated above, Keppeler does not present any example of pliant sponge granules including cellulose fibers with primarily closed cells in the specific polymer recited,

and the examiner has not shown otherwise; nor is there even the possibility of inherency in the examples presented in Keppeler.

Independent claim 19 recites a polymeric sponge comprising pliant granules including water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer, and is a further combination of the features introduced in claims 1, 2, 5, and 6.

Yet again, the examiner has overlooked this claim, and the specific combination recited therein, whose features are neither disclosed nor suggested by the disparate reference Keppeler for the additional reasons presented above.

Claim 20 recites a sponge excluding abrasive particles therein as disclosed at paras. 72 and 73, while still maintaining abrasive properties in the pliant sponge granules themselves.

Yet again, the examiner has failed to address this claim, or indicate how it would be anticipated by Keppeler.

The examiner has previously relied on col. 9 of Keppeler for the listing of fillers, which include abrasives and cellulose fibers; yet where is the teaching in Keppeler of any specific combination of such fillers with the various other constituents disclosed in Keppeler? See Examples 1-11.

Claim 21 includes the cellulose fibers for the benefits well disclosed in the specification; yet excludes the abrasive particles, as yet again explained in the specification.

Keppeler is silent on any such combination, and the examiner is equally silent in the rejection. Perhaps in the examiner's Answer he will present **de novo** the missing reasons to reject this claim, as well as the other claims in the group 13-15 and 19-21?

And, perhaps the examiner will yet again rely on "inherency" or "optional." But, as indicated above, such expedients fail to meet the stringent requirements under

Section 102; and Keppeler clearly lacks any products meeting the specific combination of claim 20.

Claim 21 recites a sponge further comprising abrasive particles bonded in the polymer as disclosed at paras. 48 & 70.

Claim 21, also, has been overlooked by the examiner, and it is expected that the examiner will yet again rely on the optional use from the mere listing of fillers found at col. 9.

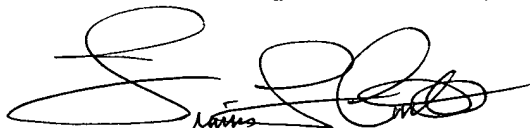
However, Keppeler clearly fails to disclose any specific combination of the various fillers listed at col. 9 with the other lists of constituents found in Keppeler, which would in any way be relevant to claim 21, and the examiner has not shown otherwise.

Accordingly, reversal of the omnibus rejection of claims 1-10, 13-15, and 19-21 under Section 102(e) over Keppeler et al is warranted and is requested.

For these exemplary reasons, reversal of all the various rejections is warranted, and allowance of rejected claims 1-10, 13-15, and 19-21, is warranted and is requested.

These rejected claims should now join the presently allowed claims, with all claims 1-43 being allowed to issue.

Respectfully submitted,



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Attachment: Appendix of claims

APPENDIX

Claims on appeal:

1. A polymeric sponge comprising pliant cellular granules including cellulose fibers imbedded therein.
2. A sponge according to claim 1 wherein said cellulose fibers are chemically bonded therein.
3. A sponge according to claim 2 comprising a water-catalyzed prepolymer.
4. A sponge according to claim 3 wherein said polymer comprises polyurethane.
5. A sponge according to claim 3 wherein said polymer comprises polyether toluene diisocyanate polyurethane.
6. A sponge according to claim 3 comprising primarily only closed cells therein.
7. A sponge according to claim 3 excluding surfactant therein.
8. A sponge according to claim 3 further comprising abrasive particles imbedded therein.
9. A sponge according to claim 8 excluding bonding agent on said abrasive particles.
10. A sponge according to claim 8 wherein said abrasive particles are bonded in said polymer.
13. A sponge according to claim 10 comprising catalyzing-water and cellulose fiber in a weight ratio of about 2:1.

14. A sponge according to claim 10 comprising catalyzing-water less than about 2% by weight.

15. A sponge according to claim 3 wherein said polymer comprises polyether toluene diisocyanate polyurethane in a matrix comprising primarily only closed cells.

19. A polymeric sponge comprising pliant granules including water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer.

20. A sponge according to claim 19 excluding abrasive particles therein.

21. A sponge according to claim 19 further comprising abrasive particles bonded in said polymer.